VOL. XII, No. 1
JANUARY 1951

Journal of the

AMERICAN PHARMACEUTICAL ASSOCIATION

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Practical Pharmacy Edition

A. PH. A. Response to Truman Proclamation

American Pharmaceutical Association
ORGANIZED 1852

OFFICE OF THE PRESIDENT

The President
The White House
Washington, D. C.

Dear Mr. President:

Through its officers and committees, and with the cooperation of its individual members, the American Pharmaceutical Association offers its services for the accomplishment of the objectives outlined in your proclamation announcing the existence of a national emergency.

Please call on us for such services as our Association, now in its ninety-ninth year, is competent to render. You will find our members ever ready and willing to make their contribution to the national defense.

Respectfully,
Henry H. Gregg
Henry H. Gregg
President

January 1, 1951

85419

A New Pleasant Tasting—

BACITRACIN TROCHE

WITH BENZOCAINE

FOR CONTROL OF LOCAL DISCOMFORT

The clinical efficacy of bacitracin troches has been further expanded by the incorporation of 5 mg. of benzocaine per troche. The local anesthetic action so provided, in addition to the specific antibiotic effect of the bacitracin, makes for a wider field of usefulness in the treatment of pharyngitis, tonsillitis, and gingivitis. These troches remain intact for a prolonged period thereby exerting an extended anesthetic influence and creating high salivary bacitracin levels.

The confection-like chocolate taste of C.S.C. Bacitracin Troches with Benzocaine makes for universal patient acceptance. Their candy-like taste and appearance encourage their continued use by adults as well as by older children.

C. S. C. Bacitracin Troches with Benzocaine are available at your wholesaler in bottles of 25.

C.S.C. Pharmaceuticals A DIVISION OF
COMMERCIAL SOLVENTS CORPORATION
17 EAST 42ND STREET, NEW YORK 17, N. Y.

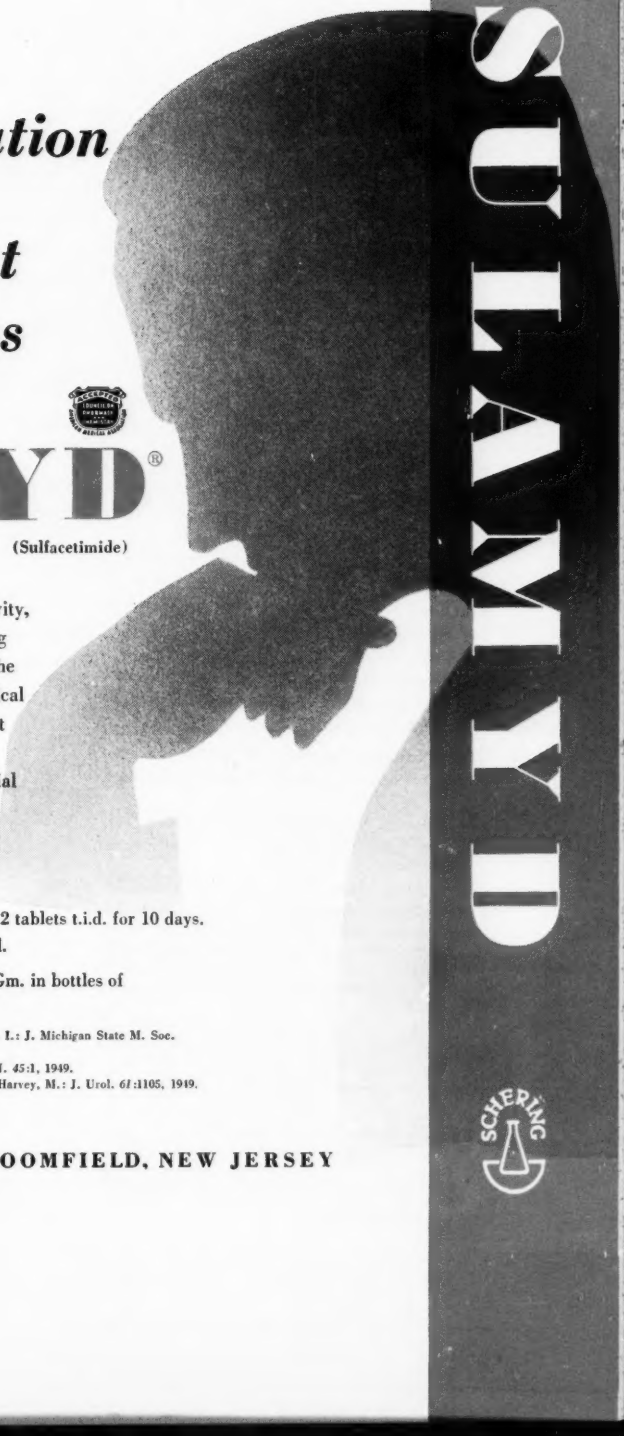
CSC

Each C.S.C. Bacitracin Troche with Benzocaine contains
1000 UNITS OF BACITRACIN AND 5 MG. OF BENZOCAINE

In a ***critical evaluation***
of drugs for treating
urinary tract infections
it has been noted that:

SULAMYD®

(Sulfacetimide)



"combines the features of good antibacterial activity, low toxicity, and rapid renal elimination resulting in high urinary level. . . . Sulfacetimide . . . has the advantage of high solubility even in the physiological acid range of the urine, thereby minimizing almost to a negligible point the danger of concrement formation. . . ."[1] Because of its wide antibacterial range it may be preferable to penicillin and streptomycin.[2] It is well tolerated and remarkably free from side effects.[3]

DOSAGE: Therapeutic: 2 tablets t.i.d. for 10 days.
Prophylactic: 1 tablet t.i.d.

SULAMYD Tablets 0.5 Gm. in bottles of 100 and 1000 tablets.

1. Nesbit, R. M., and Glickman, S. I.: J. Michigan State M. Soc. *46*:664, 1947.
2. Dodson, A. I.: West Virginia M.J. *45*:1, 1949.
3. Seneca, H.; Henderson, E., and Harvey, M.: J. Urol. *61*:1105, 1949.

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IN RHEUMATIC AFFECTIONS:

PABALATE PROVIDES BETTER SALICYLATE THERAPY THAN SALICYLATE ALONE!

Doctors know, that the effectiveness of salicylate therapy in rheumatic affections depends on maintaining high blood levels of the drug—often difficult to secure. Pabalate provides not only salicylate, but also a "booster"—the antirheumatic para-aminobenzoic acid. Physicians are reporting tremendous success with Pabalate...and druggists are experiencing extraordinary turnover volume. Do you have both forms—Tablets and Liquid—adequately in stock, for this demand?

FORMULA: Sodium salicylate and para-aminobenzoic acid (as sodium salt) (5 gr.), 0.3 Gm. in each 5 cc. (1 teaspoonful) of a chocolate flavored liquid, or one enteric coated tablet.

SUPPLIED: Liquid in pints and gallons, Tablets in bottles of 100 and 500 enteric coated tablets.

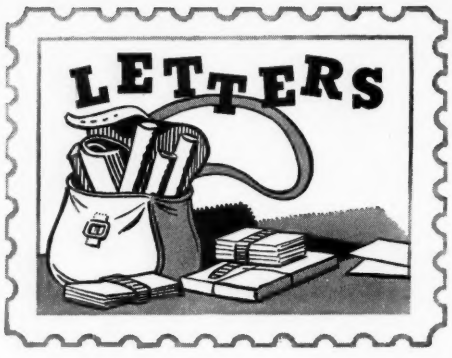
A. H. ROBINS COMPANY, INC. • RICHMOND 20, VA.

Ethical Pharmaceuticals of Merit since 1878

Pabalate® Robins

TABLETS AND LIQUID

For Effective Anti-Arthritic Therapy



Diabetes Detection Drive

Sirs:

May I take this opportunity to express, on behalf of the American Diabetes Association, my sincere appreciation for the wonderful help the AMERICAN PHARMACEUTICAL ASSOCIATION has given our program. We feel that this is an excellent public relations program for the physician and the pharmacist and the cooperation offered by your group has been of untold value.

New York, N. Y. JOHN A. REED, M.D.

Shorter Work Week for Pharmacists

Sirs:

I am both glad and proud to belong to such a fine group as the A. PH. A.

Eventually a 40-hour work week is coming for pharmacists. Is it too early to consider the effects of such a change?

Des Plaines, Ill. D. W. GALLAGHER

Pharmacy Progress Roundup Suggested

Sirs:

I suggest that you publish a report on what each state has done or is doing for the progress of pharmacy. In this way each pharmacist will know what is happening in his state; other states that may be lagging in progress may find helpful hints that could be used for the advancement of the profession; the interest of the younger pharmacists would be stimulated.

Oak Ridge, Tenn. OTIS K. KENNEDY

(*Editor's Note:* Have our readers any desires or suggestions along these lines?)

Rx Renewal Stand Approved

Sirs:

I noticed your brief in regard to refilling prescriptions. This was so logical that I felt that the A. PH. A. should have the support of every pharmacist in the land who caters to prescription service.

Grand Rapids, Mich. LOUIS V. MIDDLETON

Sirs:

I'm looking for a strong organization that will look out for pharmacists' interests. We need action along the lines of the fight you are putting on to clarify renewal of prescriptions. Believe me, as long as you continue this type of action you will have my support.

Compton, Calif. HARRY R. BROWN

Sirs:

Stay with your prescription renewal proposals. Do not give an inch.

Furthermore, I think dispensing physicians should be required to keep records such as those kept by pharmacists on all habit-forming drugs.

Thank you for a wonderful job.

Metropolis, Ill. H. H. HUMMA

A. PH. A. Best Medium for Improvement

Sirs:

I feel that it is a great pleasure to be a part of the AMERICAN PHARMACEUTICAL ASSOCIATION, and to know that through this organization we can best improve our profession.

McCaysville, Ga. WILLIAM R. LEE

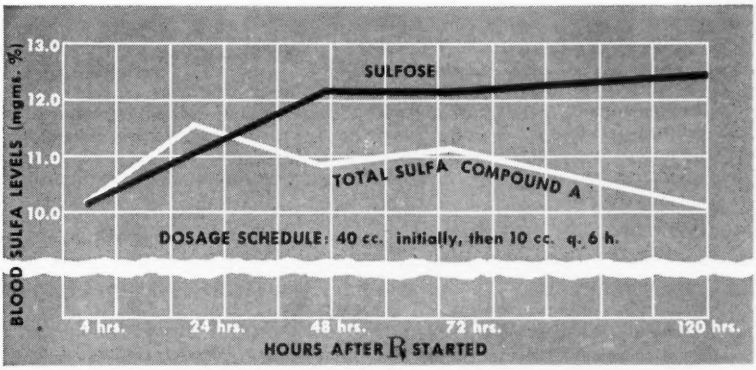
The Placard Makes Things Easier

Sirs:

I am writing in reference to your article in the December JOURNAL in which you object to the placing of placards informing the public that we refuse to sell "caution label" medications without prescriptions. Please let me take exception to your attitude. It seems to me that there is a difference professionally between pharmacy and medicine. We in this store practice pharmacy professionally and ethically. However, the average layman who asks for penicillin lozenges is much more impressed by the placard than he is by an explanation when he is told he cannot get such an item without a prescription. He seems to interpret the explanation as a collaboration between the physician and the pharmacist. Furthermore, without the placard, he cannot understand why he can get it over the counter "down the street" and not here.

Long Island, N. Y. ARTHUR S. MILLER

A New and Better Triple Sulfonamide Suspension that provides higher, sustained blood levels



A comparison of blood sulfonamide levels on equal doses of SULFOSE and a control preparation having the same sulfonamide composition.

SULFOSE *contains sulfadiazine, sulfamerazine and sulfamethazine suspended in a unique, flavored vehicle containing a special alumina gel.*

- Unusually palatable
- Stabilized suspension—won't separate
- Easy to measure—pours freely

Each teaspoonful (5 cc.) contains 0.5 Gm. total sulfonamides—0.167 Gm. each of sulfadiazine, sulfamerazine and sulfamethazine.

SUPPLIED in bottles of 1 pint.

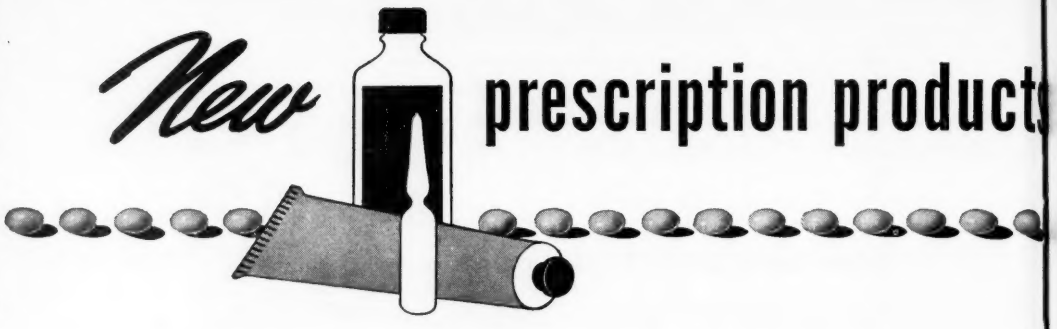
SULFOSE®

TRIPLE SULFONAMIDE SUSPENSION

Wyeth®

WYETH Incorporated, Philadelphia, Pa.

New prescription product



Product descriptions may be clipped and filed on three- by five-inch cards. These are also indexed for quick reference in the "Monthly Drug Index" appearing on the last page of each issue. A product is described in this column for the information of pharmacists who may be asked by physicians to stock the drug, or who may receive professional inquiries about it. A listing does not imply evaluation or recommendation by the Association, nor does omission of any product have significance concerning its merit.

ACETOXY-PRENOLON

Description: A sterile aqueous suspension of 21-acetoxypregnenolone containing 100 mg. per cc.

Form Supplied: Multiple dose vials of 10 cc.

Action: Recommended in treatment of rheumatoid arthritis.

Administration: As directed by physician.

Source: Schering Corp., Bloomfield, N. J.

AEROLIN COMPOUND, SOLUTION

Description: A solution containing in each 100 cc.: Clopane hydrochloride (cyclopentamine hydrochloride) 0.5 Gm.; Aludrine hydrochloride (see page 136, March) 0.25 Gm.; atropine sulfate 0.1 Gm.; procaine hydrochloride 0.2 Gm.; in a vehicle of propylene glycol and distilled water.

Form Supplied: One-ounce bottles.

Action: Indicated in the treatment of asthmatic conditions.

Administration: As directed by physician.

Source: Eli Lilly and Co., Indianapolis 6, Ind.

CELLUGRAN

Description: Cocoa-flavored granules containing methylcellulose, sugar, and dextrose.

Form Supplied: Four-ounce package.

Action: Indicated in chronic constipation. Methylcellulose swells in the intestine to form a gel. Peristaltic effect is mechanical.

Administration: Average adult dose, one level teaspoonful one to three times daily.

Source: The Tilden Co., St. Louis, Mo.

CHLOR-TRIMETON MALEATE SYRUP

Description: Syrup containing 2 mg. Chlor-Trimeton Maleate (chlorprophenpyridamine maleate) per 4 cc.

Form Supplied: 16-ounce bottles.

Action: Adjunctive therapy in allergic conditions responding to antihistaminic therapy.

Administration: one to two teaspoonfuls, three or four times daily.

Source: Schering Corp., Bloomfield, N. J.

DESITIN SUPPOSITORIES

Description: Suppositories with bulbous ends, containing crude Norwegian cod liver oil, lanolin, zinc oxide, bismuth subgallate, balsam peru, and cocoa butter.

Form Supplied: Boxes of 12.

Action: Indicated in the treatment of hemorrhoids.

Administration: One suppository morning and night and after each bowel movement.

Source: Desitin Chemical Co., Providence, R. I.

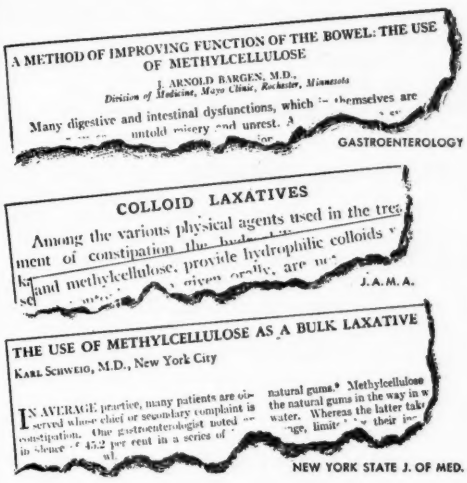
EPSILAN PHOSPHATE

Description: An injectable solution of *dl*-alpha-tocopherol monosodium phosphate, 50 mg. per cc.

Form Supplied: 2-cc. ampuls in boxes of 12 and 25.

Action: Indicated for use in maintaining a high anti-thrombic level and in emergency cases requiring alpha-tocopherol

(Continued on Page 10)



A METHOD OF IMPROVING FUNCTION OF THE BOWEL: THE USE OF METHYLCELLULOSE

J. ARNOLD BARGEN, M.D., *Division of Medicine, Mayo Clinic, Rochester, Minnesota*

Many digestive and intestinal dysfunctions, which [illegible] themselves are [illegible] untold misery and unrest. A [illegible]

GASTROENTEROLOGY

COLLOID LAXATIVES

Among the various physical agents used in the treatment of constipation the [illegible] and methylcellulose, provide hydrophilic colloids [illegible] given orally, are [illegible]

J.A.M.A.

THE USE OF METHYLCELLULOSE AS A BULK LAXATIVE

KARL SCHWEIG, M.D., New York City

IN AVERAGE practice, many patients are observed whose chief or secondary complaint is constipation. One gastroenterologist noted [illegible] in silence [illegible] of 45.2 per cent in a series of [illegible] all [illegible] natural gums.* Methylcellulose the natural gums in the way in w water. Whereas the latter take [illegible] age, limit [illegible] their [illegible]

NEW YORK STATE J. OF MED.

All in favor of Cellothyl®

METHYLCELLULOSE PREPARED BY THE "CHILCOTT PROCESS"

to correct constipation

WHAT IS CELLOTHYL?

Cellothyl tablets contain *methylcellulose* specially prepared by the Chilcott process for use as a bulk constipation corrective.

It is similar to food cellulose which provides colonic bulk in the normal diet for normal bowel function.

WHY IS CELLOTHYL RECOMMENDED?

Because Cellothyl tablets can correct years of constipation in days.

Because the Mayo Clinic found that even life-long constipation due to bulk deficiency yields to Cellothyl in a week to 10 days.

Because Schweig reported "excellent" or "good" results in 92% of cases.

Because the J.A.M.A. declared that methylcellulose has "obvious advantages over the natural gums".

WHERE DOES IT ACT?

Cellothyl corrects constipation at the primary site of constipation—the colon.

Cellothyl passes through the stomach and upper intestines as a liquid. It thickens to a smooth gel in the colon, to provide bulk for a well-formed, easily passed stool. Bloating and distention are avoided.

WHEN DOES CELLOTHYL ACT?

Time is an important part of Cellothyl therapy.

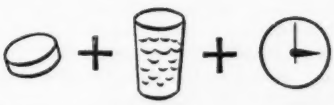
Results can be expected in the time it takes for Cellothyl to pass through the digestive tract to the rectum—usually 16 to 33 hours. In severe cases, a return to normal function may take 7 to 10 days.

HOW DOES CELLOTHYL PERFORM?

Cellothyl, by its water-retaining properties, converts the dry hard contents of the constipated colon into soft, moist easily passed bulk.

Adequate water must be taken with Cellothyl to facilitate its hydrophilic action. At least a full glass of water must be taken with each dose and fluid intake during the day must be high.

To correct years of constipation . . . or to prevent chronic constipation from developing:



Cellothyl is available in tablets in bottles of 50, 100, 500 and 5000.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

CHILCOTT *Laboratories* DIVISION OF The Maltine Company

®REG. U. S. PAT. OFF. MORRIS PLAINS, NEW JERSEY

NEW PRESCRIPTION PRODUCTS

Epsilan Phosphate • • • • • • • *from page 8*

Administration: Intramuscularly; for physician administration.

Source: The Warren-Teed Products Co., Columbus 8, O.

HEMOSULES CAPSULES

Description: Soft gelatin capsules, each containing: ferrous sulfate 972 mg.; liver concentrate (1:20) 972 mg.; folic acid 4.5 mg.; thiamine hydrochloride 6.0 mg.; riboflavin 6.0 mg.; niacinamide 24.0 mg.; pyridoxine hydrochloride 3.0 mg.; calcium pantothenate 3.0 mg.; and ascorbic acid 90.0 mg.

Form Supplied: Bottles of 96, 250, and 1000 capsules.

Action: Indicated in the treatment of nutritional anemia.

Administration: One to three capsules daily, or more as prescribed.

Source: William R. Warner & Co., Inc., New York 11, N. Y.

HOUSE DUST EXTRACT

Description: A bulk set of graduated dilutions in isotonic dextrose solution of refined and concentrated house dust extract. For hypodermic injection. Source of dust: mattresses and other household furnishings.

Form Supplied: Serial dilution treatment set (already diluted) consisting of four 5-cc. vials: No. 1 vial containing the 1:50,000 dilution; No. 2 vial containing the 1:5000 dilution, and two No. 3 vials containing the 1:500 dilution. Replacement vials may be ordered separately.

Action: Indicated in the treatment of allergic patients by desensitization.

Administration: As directed by physician.

Source: Abbott Laboratories, N. Chicago, Ill.

KONSYL

Description: *Plantago ovata* bulk laxative preparation containing no added sugar or starches.

Form Supplied: Canisters of 6 and 12 ounces.

Action: Bulk laxative, indicated in postoperative care following hemorrhoidectomy.

Administration: As directed.

Source: Burton, Parsons & Co., Washington, D. C.

NEOTRIZINE

Description: A combination of equal parts of sulfadiazine, sulfamerazine, and sulfamethazine, marketed as 0.5 Gm. tablets, 0.25 Gm. *Savorets*, and 1 Gm. per cc. suspension.

Form Supplied: Tablets, in bottles of 100 and 1000. *Savorets* (strawberry-flavored chewable tablets) in bottles of 100. Suspension in 1-pint bottles.

Action: Indicated in the treatment of sulfonamide-susceptible infections, except meningitis.

Administration: Usual adult dose is 4 Gm. initially, followed by 1 Gm. every four hours.

Source: Eli Lilly and Co., Indianapolis, Ind.

SYNTRATE TABLETS

Description: Tablets, each containing: synophylate (theophylline sodium glycinate), 2 1/2 gr.; mannitol hexanitrate, 1/2 gr.; and phenobarbital, 1/4 gr.

Form Supplied: Bottles of 100, 500, and 1000 tablets.

Action: Indicated in the relief of angina pectoris.

Administration: As determined by the physician.

Source: Central Pharmacal Co., Seymour, Ind.

TERRAMYCIN OINTMENT

Description: An ointment of crystalline terramycin hydrochloride in a petrolatum base. Each gram contains the equivalent of 30 mg. of terramycin.

Form Supplied: 1-ounce tubes.

Action: Recommended in the treatment of superficial pyogenic infections, pustular dermatitis and for prophylactic use.

Administration: Topically.

Source: Chas. Pfizer & Co., Inc., Brooklyn, N. Y.

TRIGESIC TABLETS

Description: Tablets, each containing acetyl-*p*-aminophenol 125 mg.; aspirin 230 mg.; and caffeine 30 mg.

Form Supplied: Bottles of 36 tablets.

Action: Analgesic and antipyretic. Acetyl-*p*-aminophenol is claimed to be the metabolic product of acetanilide possessing all or most of the analgesic properties but little of the toxicity of acetanilide or phenacetin. The more toxic metabolic products of acetanilide are said to be aniline derivatives.

Administration: As directed by physician.

Source: E. R. Squibb & Sons, New York 22, N. Y.

TRIMETON MALEATE SOLUTION

Description: An ophthalmic solution of Trimeton Maleate (prophenpyridamine maleate) 0.5%.

Form Supplied: 15-cc. dropper bottles.

Action: Indicated for relief of ocular symptoms of an allergic or irritative origin.

Administration: Two drops in each eye three or four times a day or less, as indicated.

Source: Schering Corp., Bloomfield, N. J.

(Continued on Page 12)

"stock phrase" of the year:

Better increase my order for

Chloromycetin®

More and more physicians are using CHLOROMYCETIN on more and more patients for an increasing number of indications.

The reasons are easy to understand. Physicians are prescribing it because, with CHLOROMYCETIN, they get the results they expect to get in a wide range of infectious diseases. And patients rarely experience side effects from this well-tolerated pure crystalline compound—the *only* antibiotic synthesized on a practical scale.

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is supplied in Kapseals® of 250 mg., and in capsules of 50 and 100 mg.

PARKE, DAVIS & COMPANY

NEW PRESCRIPTION PRODUCTS

• *from page 10*

Other New Products

Chemicals, clinical trial drugs, diagnostic aids and equipment

Barrel Filling Meter

A new 60-g.p.m. 1½-in. pipe size Barrel Filling Meter measures repeat quantities from 25 to 79 gallons by one-gallon increments. Only a single gear change is necessary to obtain different quantity settings. Changes in settings may be made without use of any tools. The meter is equipped with two counters, one of which indicates the number of containers filled. Adjustment for different products can be made.

An optional accessory is an automatic temperature compensator which converts readings to 60° F. The meter is also available with liter counters. Special meters for corrosive fluids are available.

Manufactured by A. O. Smith Corporation, Los Angeles 22, Calif.

Fast-Setting Bandage

A new product, marketed as "SPECIALIST Extra-Fast-Setting Plaster-of-Paris Bandage" sets in two to four minutes (averaging three minutes or less) and is put up in three sizes: 2 inches x 3 yards, 3 inches x 3 yards, and 4 inches x 3 yards. Packed in boxes of one dozen of a size.

It is reported that the new bandage meets the requirement for an extremely fast setting bandage for use in clubfoot, wrist and other small casts.

Manufactured by Johnson & Johnson, New Brunswick, N. J.

New Anticoagulant

Tromexan, said to be a new anticoagulant substance, is expected (on the basis of clinical findings already available in the literature) to eliminate many of the hazards now encountered in other forms of anticoagulant therapy. The advantages claimed for Tromexan are: more rapid anticoagulant action, more predictable effect on prothrombin level, absence of dangerous cumulation, and more favorable potency-toxicity ratio.

Manufactured by Geigy Company, Inc., New York 8, N. Y.

Plastic Blood and Plasma Infusion Set

Nylon, recently employed in the surgical treatment of arthritis, is now being used in the form of monofilaments to make a vital part of a new all-plastic blood and plasma infusion set.

The complete infusion set is composed of flexible plastic tubing; a nylon needle adapter ready for insertion of the infusion needle; and a double nylon filter, encased in a plastic cylinder, which is fitted directly into the blood or plasma flask.

During the infusion, blood flows from the flask through a slotted strainer at the top of the cylinder into a secondary filter of a large nylon mesh, and into a third inner filter of fine nylon mesh. The core of the mesh filter contains a plastic brace to prevent the unit from collapsing during use.

It is reported that this is the first triple filter to be designed for blood administration and, according to Cutter Laboratories, the nylon monofilament is "by far the most satisfactory material yet developed for this purpose."

Manufactured for Cutter Laboratories, Berkeley 10, Calif.

New Fluorine Chemicals

The Pennsylvania Salt Manufacturing Company now has available, in experimental quantities for evaluation purposes, the first three of a series of organic sulfonyl fluorides: benzenesulfonyl fluoride, *p*-chlorobenzenesulfonyl fluoride, and *m*-nitrobenzenesulfonyl fluoride.

These sulfonyl fluorides are recommended for evaluation as solvents, as heat transfer agents, as intermediates in the manufacture of dyestuffs, and as chlorination media.

Manufactured by Pennsylvania Salt Mfg. Co., 1000 Widener Building, Philadelphia 7, Pa.

New Contrast Agent

A new contrast agent, presently called WIN 2011, for visualization of the gall bladder was recently shown to doctors for the first time.

An exhibit, equipped with viewing boxes for showing X-ray plates of the gall bladder, kidneys, urinary tract and the spinal canal when treated with new radiopaque substances, revealed results obtained in animal and clinical experiments with both WIN 2011 and Diodrast (Iodopyracet).

Manufactured by Sterling-Winthrop Research Institute, Rensselaer, N. Y.

Tablet Disintegration Tester

The new Vanderkamp Tablet Disintegration Tester—designed to measure accurately the disintegration rate of tableted medicinals or other products—is a compact instrument claimed to meet or exceed specifications of U. S. P. XIV and N. F. IX.

The Vanderkamp Tablet Disintegration Tester comes ready for operation and works from a 110-volt, 60-cycle a.c. power supply. Besides tablet testing, the apparatus may be adapted for such purposes as determining the dissolving rate for soaps, rusting tests of metals, etc.

Manufactured by The Panray Corporation, New York 13, N. Y.

"...the only drug we have seen that allays anxiety without clouding consciousness"

J.A.M.A. *160*:872 (June 25) 1949

Tolserol (*Squibb Mephenesin*)

- **to alleviate pronounced anxiety and tension**
- **as an adjunct in the treatment of chronic alcoholics**

DOSAGE

In anxiety tension states:

As little as 0.5 Gm., given orally every few hours, has produced a good response. However, for optimum effect, 0.75 Gm. or more is given several times a day.

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As much as 3 Gm. orally every four hours has been found useful in the acute stage. This dosage is reduced when the patient becomes more manageable. (If Tolserol is given too soon after the patient drank alcohol, the toxic effect of the alcohol may be potentiated. For this reason, Tolserol should not be administered until six hours have elapsed since the patient drank alcohol.)

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Tolserol *(Squibb Mephenesin)*

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THE COVER

President Gregg offers A. Ph. A. cooperation in response to President Truman's Emergency Proclamation (reproduced on page 30)

JANUARY 1951

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STRAIGHT FROM HEADQUARTERS

By ***ROBERT P. FISCHELIS***, Secretary
AMERICAN PHARMACEUTICAL ASSOCIATION

ACTION ON PROPOSED PRESCRIPTION REFILL RULING

The Attorneys for the AMERICAN PHARMACEUTICAL ASSOCIATION gave careful study to the proposed ruling offered by the Federal Security Administrator for the clarification of the references to filling and refilling of prescriptions in the Federal Food, Drug and Cosmetic Act and regulations thereunder. The thirty-day period allowed for filing written comment on the proposed ruling expired on January 5, 1951.

Messrs. Thurman Arnold and Walton Hamilton of Arnold, Fortas & Porter, attorneys for the A. PH. A., have sent a communication to the Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION setting forth their interpretation of the proposed ruling filed by the Federal Security Administrator in The Federal Register for December 6, 1950. They have sent a copy of this letter to the Administrator, Oscar Ewing, informing him of the advice which they are giving the members of the AMERICAN PHARMACEUTICAL ASSOCIATION with respect to the filling and refilling of prescriptions under the proposed order.

In their communication to the Administrator they also suggested that an amendment to his definition of the term "prescription," while perhaps not necessary, would serve to set at rest any doubt as to the conditions under which the telephone may be used as a method of communicating prescriptions.

In the proposed ruling the term "written prescription" is defined as follows: "The term 'written prescription' as used in paragraph (b) of this section, means a written order signed by a physician, dentist, or veterinarian, directing the dispensing of a specific quantity of a drug or device for the person named in the order; and the phrase 'dispensed upon written prescription' does not include refilling the prescription or otherwise dispensing any quantity of the drug or device in addition to that specified in the order, unless the refilling, or other dispensing of the additional quantity, is authorized in writing by the prescriber."

The amendment suggested by the attorneys for the AMERICAN PHARMACEUTICAL ASSOCIATION would add the following: "The requirement of a written prescription signed by a physician shall be deemed to be fulfilled if

"(1) the physician dictates the prescription—or authorizes the refill—to the dispensing pharmacist over the telephone, with full directions for use and precise instructions in respect to later refills;

"(2) the pharmacist makes and preserves in writing an accurate record of the prescription—or of the authorized refill—as dictated; and

"(3) the physician notifies the pharmacist, at the time of the phone call, that a proper entry is being made on the record of the patient in the physician's office to the effect that the prescription was given or the refill authorized."

The Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION is not expected to circulate the interpretation of the proposed

order as supplied by counsel for the ASSOCIATION until the Administrator issues the ruling in final form.

In the meantime, pharmacists are advised that although the proposed ruling falls short of giving everything that the ASSOCIATION asked for, it marks a substantial advance, which on the basis of the interpretation by counsel for the AMERICAN PHARMACEUTICAL ASSOCIATION will provide adequate official guidance in the filling and refilling of prescriptions.

As soon as the final ruling is promulgated, the AMERICAN PHARMACEUTICAL ASSOCIATION will issue its interpretation for the guidance of the profession. Any further action to be taken will depend upon the form and content of the final ruling.

✦ ✦ ✦

OUR COURSE IS CLEAR

The AMERICAN PHARMACEUTICAL ASSOCIATION's course in the endeavor to secure a clear-cut ruling on the interpretation of the Federal Food, Drug and Cosmetic Act with respect to prescriptions is so straightforward and logical that it is difficult to understand why anyone should attack it. There is nothing about the procedure which interferes with any other approach to a solution of the problem. It confines itself to fighting for a principle which, at the moment, is of greater importance to the profession of pharmacy than anything else confronting it.

More and more people in every branch of pharmacy, who give the matter thought, are impressed with the simplicity of the approach and the sincerity of purpose of the A. PH. A. in attempting to solve this vital problem.

The progress being made in obtaining a satisfactory ruling is reported elsewhere in this issue. It is an indication that the Federal Security Administrator has seen rather clearly what confusion has been caused by the arbitrary pronouncements of the Commissioner of Food and Drugs and that he is anxious to do something about it.

If all pharmaceutical associations in the United States would unite in battling for the recognition of the principle that licensed physicians must retain control of what to prescribe for their patients and licensed pharmacists must retain control over the interpretation of the physician's instructions, whether given orally, in writing, or through the patient, we would all be fighting against unlawful and unnecessary interference with the regulation of the professions by a Federal Agency which was set up, not to regulate the professions, but to regulate *interstate commerce* in foods and drugs.

In his message to Congress on the State of the Union President Truman asked for unity. His words to the Congress on this matter might well be taken to heart by those individuals and organizations in American pharmacy who have been substituting vituperation for constructive debate in dealing with the prescription refill problem and who seem to feel that pressure tactics should be substituted for logical argument and persuasion. In his address to the Congress, President Truman said "I ask the Congress for unity in these crucial days.

"Make no mistake about my meaning. I do not ask, or expect, unanimity. I do not ask for an end to debate. Only by debate can we arrive at decisions which are wise, and which reflect the desires of the American people. We do not have dictatorship in this country, and we never will have it.

"When I request unity, what I am really asking for is a sense of responsibility on the part of every member of this Congress. Let us debate the issues, but let every man among us weigh his words and deeds."

✦ ✦ ✦

THE NEW YEAR

The current number of THIS JOURNAL starts Volume XII. The editors appreciate the cooperation they have had from contributors, readers, and advertisers. All three are necessary to the development of the permanent literature of pharmacy. Twelve years ago when THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION was split into the *Scientific* and the *Practical Pharmacy Editions*, it was the desire of the Council of the ASSOCIATION to provide a satisfactory medium for the dissemination of information of prime importance to practicing pharmacists. This is still our objective and in wishing our readers and advertisers a Happy New Year, we express the hope

that they may continue to give us their guidance and suggestions toward the improvement of our publication.

✦ ✦ ✦

A DUAL CHALLENGE

The American Foundation for Pharmaceutical Education is pharmacy's "community chest" for the support of pharmaceutical education and research in its broadest aspects. Its board of directors includes representatives from all national organizations within the profession of pharmacy and the drug industry. Its charter authorizes it to receive funds and property and to expend income or principal for upholding, improving, broadening and otherwise fostering, promoting and aiding pharmaceutical education. This may be done by aiding colleges of pharmacy and their students; creating sources of unbiased and authoritative investigation and experimentation on pharmaceutical problems; and selecting and financing important research problems.

It is clear from the foregoing statement that in order to fulfill the purposes of the Foundation, it is necessary for it continuously to study the trends in pharmacy and pharmaceutical education. This is the primary challenge to which the Foundation must respond. A fine start was made in this direction when the Foundation financed the Pharmaceutical Survey.

The training of personnel to meet the requirements for carrying on the services of pharmacy is being concentrated more and more in the colleges of pharmacy. These institutions cannot exist on student fees alone if they are to foster a high quality of education, research and service to the profession and to the public. The drug industry acknowledged its obligation to give financial assistance to the colleges of pharmacy when its representatives agreed to join in forming the Foundation and virtually make it their "community chest" for contributions to pharmaceutical education. But raising funds for pharmaceutical education is only a part of the job that has to be done.

It is the disbursal of the funds collected that constitutes the real challenge to the Foundation. Merely to contribute money for scholarships or fellowships which may tax the institutions to which they are contributed beyond their ability to provide the necessary high quality of education is of questionable service to the profession.

Funds must be made available for the improvement of facilities and to provide teachers with special abilities who can serve the industry or the profession along unusual lines. These are the current needs of American pharmacy and pharmaceutical education.

The Board of Grants of the Foundation and its administrative officer must be alert to the requirements of pharmaceutical education in all its phases. The information on which they base their judgment of need and the amounts to be contributed must be accurate and should be made known through comprehensive annual reports supplied by those who know the requirements.

The preparation of the annual budget of the Foundation should be based upon continuous surveys of the actual needs of our educational institutions and upon the extent to which additions to the manpower of pharmacy are required. There must also be an appreciation of the conditions under which teachers can prepare themselves for their important tasks to the best advantage. As Chancellor Robert M. Hutchins of the University of Chicago put it recently: "Professors are the only people in the world whose sole duty it is to think. To require them to stop thinking, or to think like everybody else is to defeat the purpose of their lives and of their institutions.

"The doctrine that a university may frame its policies so as to get money and that it may teach or study whatever it can get financed are ruinous notions," he maintained.

To meet the need of supplying the best teachers and to keep these teachers satisfied and happy in their pursuits is the best guarantee of a high quality of American pharmaceutical education in the future. To this end it is essential that the drug industry continue to make available set sums from year to year on which colleges of pharmacy may count to supplement their ordinary sources of income. As Dr. Ernest Little, acting secretary of the Foundation, pointed out in his recent report to the Foundation, this is not a matter of making a contribution because it is asked for by a certain individual with whom the donor is on friendly terms. It is a matter of acquiring and preserving for American pharmacy the resources to guarantee a steady flow of well-trained personnel essential for its future as a profession.

PRESIDENT GREGG'S NEW YEAR MESSAGE

ON BEHALF of the officers and members of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION I wish to extend to the members of our ASSOCIATION and to the officers and members of all other pharmaceutical associations, best wishes for a happy and prosperous New Year.

As you will note from the cover of this issue of THE JOURNAL, the AMERICAN PHARMACEUTICAL ASSOCIATION has offered its services to the President of the United States in the current emergency. We feel sure that all of the members of the AMERICAN PHARMACEUTICAL ASSOCIATION as well as pharmacists everywhere will unite with citizens in all walks of life to respond to the call in the proclamation of the President of the United States for united effort in behalf of the security and well-being of our nation.

In the year ahead individuals will be called upon to serve in various capacities and our national, state, and local pharmaceutical associations will be asked to support various activities growing out of the national emergency. I am sure that no individual pharmacist and no pharmaceutical association will be found wanting.

The necessity for team work in all of our affairs was never greater, and I am sure that we all agree that this is a time to set aside selfish interests and to work cooperatively for the good of all.

I am sure that the pharmacists of the United States realize that, in spite of possible variations in the approach of different pharmaceutical associations to a solution of our professional and economic problems, each organization is striving in its own way to solve these problems in the best interest of the profession and the public.

It has always been the policy of the AMERICAN PHARMACEUTICAL ASSOCIATION to work with other associations in solving pharmacy's problems whenever this can be done lawfully and practically. We expect to continue this policy. We shall continue to give our support to affiliated and related organizations which serve the various specialized functions of American pharmacy. Our administrative officer and staff are doing everything within their power to make available the facilities of the A. PH. A. at its headquarters building in Washington, D. C., for the development of a sound program for the utilization of pharmacy's manpower and material resources.

It is very gratifying to report that our membership has reached an all-time high and that at the end of 1950 we had about five times as many members as we had at the close of World War II.

It has been most encouraging to the officers of the ASSOCIATION to have this splendid response to our efforts from both practitioners and students of pharmacy, and we pledge our best efforts in meeting emergency problems, as well as in the daily routine tasks which have made this ASSOCIATION the leader in developing the professional aspects of American pharmacy.

Henry H. Gregg

"HEALTH SERVICES and SPECIAL WEAPONS DEFENSE"

. . . as conceived by the Federal Civil Defense Administration in its official manual AG 11-1 . . . a review

The role of the pharmacist as an integral part of the civil defense team is outlined, both specifically and generally, in a new manual just published by the Federal Civil Defense Administration. Entitled *Health Services and Special Weapons Defense*, the 260-page manual delineates the responsibilities of the civil defense health services and defense against special weapons, which are defined as atomic explosion, biological warfare, and chemical warfare. The manual also sets forth a program for the development of state and local civil defense health services. Included in the health services, other than pharmaceutical, are medical, surgical, dental, nursing, sanitation, veterinary, laboratory (including clinical, public health, and X-ray), hospital, radiological, and other related services.

The manual is based on recommendations and summarized functional responsibilities in regard to these two interrelated phases of civil defense contained in the report of the late Russel J. Hopley, compiled in 1948 by request of the late James Forrestal, the first Secretary of Defense. The "Hopley Report," which was published under the title *Civil Defense for National Security*, was prepared with the advice and assistance of representatives of pertinent government agencies, disaster agencies such as police and fire departments, and professional organizations representing the medical and related sciences. Pharmacy was represented by the AMERICAN PHARMACEUTICAL ASSOCIATION'S Secretary, Dr. Robert P. Fischelis.

Health Services and Special Weapons Defense points out that shortages of certain types of professional personnel and health facilities are acute even in peacetime. If war comes, personnel shortages would become drastic because of the need for civilians to share professional health personnel with the armed forces. Such potential shortages make efficient civil defense planning an absolute necessity.

As is the case with all other civil defense services, health service plans must be made on the assumption that no military aid would be available for civilian disaster relief in wartime. It is possible that, in event of emergency, military aid could be given to local health services. Such assistance should be regarded, however, as an unlikely potential reinforcement and not as a substitute for civilian efforts.

In all, the manual comprises nineteen chapters, covering nearly every phase of the medical services in civil defense planning. Pharmacists will find an interest in each chapter, even though pharmacists and the pharmaceutical profession may not be specifically mentioned. An indication as to the completeness of the manual is the fact that even sample forms that might be used in accounting for supplies are reproduced.

The pharmacist will find that he is charged with many responsibilities, ranging from elementary first aid services to advisory service on committees responsible to the state civil defense director. To bring these specific duties and responsibilities immediately to the attention of the readers of THE JOURNAL, the manual references to the pharmacist on the civil defense team are published verbatim on pages 33–36 of this issue.

In this review the responsibilities of the pharmacist will be grouped under five categories: supply, first aid, hospitals organized for disaster, special health services, and advisory service.

Supply

The manual recommends that, because of his training and experience, the pharmacist is eminently qualified to assume, at all levels, full charge of all supply activities.

There is no threatened shortage of health supplies in peacetime, but in the event of disaster, with sudden enormous demands upon the available stocks, certain supplies may become depleted in a short time. Supplies of surgical textiles, such as bandages and gauze, and surgical instruments are potentially those most likely to create a shortage problem. The production capacity of the drug industry is almost unlimited. The manufacturing potential for biologicals and antibiotics is reasonably satisfactory.

Each critical target area would need to have on hand, well scattered throughout the community, health supplies sufficient to last through the early hours of civil defense operations and casualty care, as it would not be possible to move supplies to a bombed city for several hours following an attack. It is not planned to consider pharmacies as supply centers, but rather to have strategically located Federal stockpiles at places away from areas likely to be in the center of explosion.

Supply officers will be taught the federal supply system and procedure, distribution, control, and evaluation of requests in order to avoid depletion of supplies. It will be the responsibility of the pharmacist to devise local health supply channels in accordance with civil defense principles.

As an indication of the magnitude of the supply problem, it is recommended that first aid stations have some 75 different items on hand, stocked and maintained locally. Regional federal supplies will have about 50 items to be shipped into a community as soon as possible. For later use, a formula has been worked out based on requirements for each 1,000 patients. This calls for shipment of certain specified supplies, including 15,000 packages of penicillin in 200,000 units, 3,000 morphine tablets or syrettes of $1/4$ grain, and 25 surgical sets, including 26 optional instruments in each set.

First Aid

The suggested personnel requirements for a first aid station provide for two physicians, three dentists, three nurses, two pharmacists, fifteen first aid workers and nurses' aides, 150 litter bearers, two four-stretcher ambulances with two attendants each, and four autos with one attendant each. This is the minimum staff deemed necessary for round-the-clock operation. A city similar to Washington, D. C., which has a density population of 11,000 per square mile, would require 96 first aid stations, involving the services of nearly 18,000 persons.

Pharmacists will assume the supply duties previously mentioned, but in addition should be prepared to perform any other functions designated. Because of their training, pharmacists will be able to assist in treatment of symptoms caused by chemical warfare agents (see Chemical Warfare, page 37, this issue, THE JOURNAL), assist in measures to combat biological warfare agents (see Biological Warfare, page 738, THE JOURNAL, 1950), give supportive solutions such as blood plasma and saline and glucose solutions, apply dressings and bandages, give hypodermic injections, and perform many other tasks in a first aid capacity.

Special courses will be given under the auspices of the state civil defense authorities. These will include courses in defense against special weapons, treatment of burns, general treatment of casualties, and general administrative and organizational problems. Pharmacists are urged to take advantage of every hour of training possible.

Hospitals Organized for Disaster

Hospitals will be the focal points for civil defense. It is estimated that if an atomic explosion caused 60,000 casualties, about 26,000 of these, or two-thirds, would need hospital care. The hospitals would be of three types, namely, existing hospitals, improvised hospitals, and hospitals in surrounding areas.

The duties of the pharmacist would be to render pharmacy services and to function in a supply capacity. In an existing hospital, the facilities necessary to fulfillment of both missions would be present, although expansion of normal operations to meet those due to disaster conditions would call for thorough training, ingenuity, and just plain hard work. The capacity of existing pharmaceutical services in the hospital could be greatly increased by the utilization of volunteer pharmacists on a round-the-clock basis.

In improvised hospitals, the pharmacist will be called upon to establish a pharmacy service. In most instances, because of the time factor and great numbers of casualties, this service will be limited to preparation and distribution of emergency drugs.

The pharmacist in charge of supplies will be in a particularly responsible position, as the improvised hospital would not be able to function at all unless supplies and equipment are available as soon as existing conditions permitted. To get the needed supplies to the hospital, thorough familiarity with the overall civil defense plan will be necessary. The supply functions mentioned in foregoing paragraphs will apply in this instance. The supply needs for a hospital will, of course, be greater and more diverse than for those of a first aid station.

Special Health Services

In planning for the care of disaster casualties, it must be borne in mind that the usual nondisaster needs for medical services would still exist. Civil defense health service plans, therfore, include a well-organized medical service to care for these needs. Pharmaceutical service is considered essential, along with pediatric, obstretrical, mental hygiene, dental, and nursing services.

Pharmacies which survive an attack should continue to operate, but should confine operations to essential activities.

Advisory Service

It is recommended that a health service advisory council to the state director of civil defense be appointed immediately, the members to include a representative of each special field. The secretary of the state pharmaceutical association should avail himself of this opportunity to represent his profession in regard to the technical phases of planning the functions of the health services. In addition, the secretary, if he becomes a council member, can aid in organizing the members of the pharmaceutical profession. He must be a leader.

COMMON METABOLIC CHARACTERISTICS FOUND AMONG ALCOHOLICS

In support of a school of thought that has advanced the theory that the metabolism of alcoholics follows a definite pattern, investigators* at the University of Texas and the Clayton Foundation in Austin, Texas, have found statistically significant differences in metabolic characteristics between alcoholics and nonalcoholics.

The metabolic patterns of four alcoholics and eight nonalcoholic controls were studied over a month. The resultant data strongly indicate that alcoholics possess certain common metabolic features.

Of the items studied, those that seemed to be associated with alcoholism are: elevated sodium and uric acid in the saliva; elevated urinary hippuric acid, uric acid, citric acid, unidentified weak acids, thiamine, *p*H, and pigment; increased magnesium in the blood serum; decreased urinary gonadotropin, taurine, and citrulline; decreased phosphorus in the blood serum; and increased taste sensitivity to sodium chloride.

While these results are not conclusive in themselves, the researchers feel that the evidence is sufficient to warrant further investigation.

* Beerstecher, E., Jr., Sutton, H. E., Beery, H. K., Brown, W. D., Reed, J., Rich, G. B., Berry, L. J., Williams, R. J., "Biochemical Individuality V. Explorations with Respect to the Metabolic Patterns of Compulsive Drinkers." *Arch. Biochem.*, 29: 27, 1950.

THEOPHYLLINE BLOOD LEVELS AND DIURESIS

Studies of theophylline blood levels following intravenous, oral, and rectal administration of aminophylline, correlated with the diuretic action, were reported in the *Journal of Pharmacology and Experimental Therapeutics* (November, 1950) by Drs. E. B. Truitt, Jr., V. A. McKusick, and J. C. Krantz, Jr. The studies indicated that the rectal retention enema is an effective and perhaps optimal method of administration, lacking the unpleasant immediate side effects, with subsequent possible risk to the patient, seen after intravenous administration.

The poor absorption shown by rectal suppositories led the authors to believe that this method of administration was of dubious clinical value, unless it is concluded that low blood levels of theophylline are necessary to prevent attacks of asthma or paroxysmal dyspnea. The blood level is about the same in one hour after either rectal or intravenous administration.

Variability of blood levels was observed after oral administration of 0.3 Gm. and 0.5 Gm. of aminophylline, as well as a two- to four-hour delay of maximum absorption. The studies with theophylline-sodium glycinate given orally in repeated doses suggest that satisfactory levels can be maintained by this method.

The authors concluded that the blood level of theophylline necessary for a diuretic effect is 0.5 mg. per 100 ml.

SORBITANS

SOLVE Rx INCOMPATIBILITY

By Mitchell J. Stoklosa* and Leslie M. Ohmart*

ALTHOUGH the sorbitans have been used rather extensively in cosmetic and pharmaceutical formulation as emulsifiers, capable of producing either water-in-oil or oil-in-water emulsions, and as solubilizers for essential oils and vitamin concentrates, their use as dispensing aids in extemporaneous compounding has not been fully realized.

The sorbitans, known commercially as SPANS† and TWEENS,† are essentially partial esters of polyhydric alcohols and alcohol ethers, and their polyoxyethylene derivatives. In a classification of surface active agents, these compounds are listed as non-ionic agents. They are, therefore, non-dissociating substances that owe their effect as emulsifiers and solubilizers to a proper balance between certain polar groups which are hydrophilic and non-polar groups which are lipophilic. The hydrophile portion of the compounds is usually represented by hydroxyl and by oxyethylene groups while the lipophile portion is characterized by long hydrocarbon chains of fatty acids.

Several interesting properties are common to the sorbitans as a class.[1,2]

1. They offer a wide range of solubility. Generally speaking, the SPANS are soluble in oils and the TWEENS, their polyoxyethylene derivatives, are soluble in water. Further, these substances are miscible with each other.
2. They are relatively stable and they are non-volatile.
3. They offer a reasonably wide range of compatibility with various solvents, chemicals, and pharmaceuticals.
4. They are generally non-toxic and non-irritating.
5. They are "versatile." Because the number of active groups in the base molecule of these agents can be controlled in synthesis, a large series of compounds is available, each of which is useful in solving specific formulation problems.

In view of the rather unusual properties of these surface active agents, it was felt that the dispensing pharmacist might use these compounds as pharmaceutical adjuncts in solving prescription problems and incompatibilities, particularly those involving solubility difficulty.

In an attempt to evaluate the use of sorbitans as dispensing aids, six series of prescriptions were critically studied and the use of these agents in the compounding of the prescriptions was investigated. From the large series of sorbitans that are commercially available, two were chosen for evaluation in this study: (1) sorbitan monolaurate, commonly known as SPAN 20 and (2) the polyoxyethylene derivative of sorbitan monolaurate, commonly known as TWEEN 20.

The prescriptions chosen for the investigation included not only topical applications but also medications intended for internal use. Although it is recognized that the sorbitans impart a slight bitter taste to preparations for internal administration, their usefulness in overcoming certain incompatibilities in such prescriptions should not be overlooked.

Several prescriptions were studied in each series but, because of the similarity with respect to the nature of the ingredients, the

* Department of Pharmacy, Massachusetts College of Pharmacy, Boston, Mass.
† Atlas Powder Company, Wilmington, Del.

type of incompatibility involved, the method of compounding, and the advantages gained from the use of sorbitans, only one or two examples of each group will be discussed. Directions for compounding and comments will be given for each of the examples chosen for discussion.

Mentholated Lotions

This group included a series of prescriptions of the lotion type in which menthol was prescribed in an aqueous or in a low alcoholic vehicle in concentrations exceeding its solubility. In such prescriptions, when the menthol, previously dissolved in a small amount of alcohol, is added to the mixture of the remaining ingredients, an unsightly separation of the menthol results. The addition of TWEEN 20 (polyoxyethylene sorbitan monolaurate) solubilizes the menthol, the amount required for solubilization varying with the amount of menthol in the preparation and with the nature of the vehicle. The following prescriptions serve as typical examples.

℞ No. 1—

Phenol	1.0
Menthol	0.5
Glycerin	15.0
Boric Acid Solution ad	120.0

Sig. Apply as directed.

Dissolve the menthol in 1 cc. of alcohol, add 10 cc. of TWEEN 20, and mix thoroughly. To this solution add the mixture of phenol, glycerin, and boric acid solution in divided portions, agitating after each addition. A clear "solution" results.

℞ No. 2—

Phenol	1.0
Witch Hazel	15.0
Menthol	0.2
Glycerin	10.0
Water ad	120.0

Sig. Apply to affected areas.

Dissolve the menthol in 1 cc. of alcohol, add 5 cc. of TWEEN 20, and mix thoroughly. To this solution add the mixture of phenol, glycerin, witch hazel, and water in divided portions, agitating after each addition. A clear "solution" is obtained.

Resinous Tinctures

This series included preparations containing a resinous tincture and an aqueous vehicle. When tinctures of resinous drugs, e.g., benzoin, myrrh, are added to water, a fine suspension of the resins results, followed by an agglutination of resinous masses. Two prescriptions illustrate the use of TWEEN 20 as a solubilizer for resinous material.

℞ No. 1—

Benzoin Tincture	4.0
Glycerin	30.0
Rose Water ad	120.0

Sig. Apply as directed.

Mix the benzoin tincture and 10 cc. of TWEEN 20. To this solution add the glycerin and rose water in divided portions, shaking after each addition. There is no precipitation of resinous material. A clear product results.

℞ No. 2—

Potassium Chlorate	5.0
Myrrh Tincture	10.0
Water ad	120.0

Sig. Use as directed.

Mix the myrrh tincture with 15 cc. of TWEEN 20. To this add the solution of potassium chlorate in water in divided portions, shaking after each addition. No precipitation or agglutination of resinous masses is evidenced. A pharmaceutically elegant product results.

Glycerin and Petrolatum

The prescriptions that were studied in this series represented ointments involving the immiscibility of glycerin and petrolatum. In an attempt to increase the glycerin-absorption value of the petrolatum, the use of SPAN 20 (sorbitan monolaurate) was investigated. The following example typifies the compounding difficulty encountered in prescriptions of this group.

℞ —

Ichthammol	2.0 Gm.
Glycerin	10.0 Gm.
Petrolatum ad	30.0 Gm.

Sig. Apply.

When compounded as written, separation of the glycerin occurs. It was found that the addition of 2% of SPAN 20 prevented this separation. Incorporate the SPAN 20 with the petrolatum, add the glycerin and the ichthammol, and mix thoroughly. A smooth, fine-textured ointment results showing no separation of the ingredients.

Oil in Water

This group included prescriptions for topical applications containing mineral oil and a vehicle consisting of glycerin and

water. In such prescriptions separation into layers occurs almost immediately after agitation of the mixture. It was found that 2% of SPAN 20 retarded this separation and that homogenization further improved the stability of the product.

℞ —
Mineral Oil
Glycerin, āā..... 35.0
Camphor Water
Water, āā..... 15.0
Sig. For external use.

Incorporate the SPAN 20 with the mineral oil, add the glycerin, camphor water and water, mix thoroughly, and homogenize the product. A fine dispersion of the mineral oil in the glycero-aqueous vehicle results.

Precipitation by Dilution

Prescriptions for liquids intended for internal use were studied in this series. The dispensing problems encountered in these preparations were, in general, those involving a precipitation or a cloudiness resulting from a change of solvent caused by a dilution of alcoholic liquids, e.g., tinctures, spirits, with aqueous vehicles. A precipitation of extractive matter or a separation of alcohol-soluble material usually occurs. The incompatibility may be overcome by the use of TWEEN 20.

℞ No. 1—
Nux Vomica Tincture..... 15.0
Compound Gentian Tincture..... 30.0
Distilled Water ad..... 120.0
Sig. 4 cc. ex aq. a.c.

Mix 5 cc. of TWEEN 20 with the tinctures. To this solution add water in divided portions, shaking after each addition. The resultant product is a clear "solution."

℞ No. 2—
Anisated Ammonia Spirit..... 4.0
Tolu Balsam Syrup ad..... 120.0
Sig. For cough.

To the mixture of anisated ammonia spirit and 2 cc. of TWEEN 20 add the tolu balsam syrup in divided portions, agitating after each addition. A clear "solution" is obtained.

Water in Oil

This group included prescriptions for sprays in which either a water-soluble ingredient or an aqueous solution of a medicament was prescribed in an oily vehicle. In an attempt to overcome the incompatibility, a combination of SPAN 20 and TWEEN 20 was used.

℞ —
Neo-Silvol Solution 10%..... 8.0
Menthol..... 0.2
Eucalyptol..... 0.5
Liquid Petrolatum ad..... 30.0
Sig. Spray.

Add 0.1 cc. of TWEEN 20 to the Neo-Silvol solution, and 1 cc. of SPAN 20 to the liquid petrolatum in which the menthol and eucalyptol have been dissolved. Mix the two solutions thoroughly. A fine dispersion of the aqueous liquid in the oily medium results. Slight creaming occurs on standing, but the product shakes in well.

Conclusions

The experimental data on the use of certain sorbitans as pharmaceutical adjuncts in extemporaneous compounding indicate that many unusual things can be done with them in solving prescription problems and incompatibilities. These substances are particularly useful in overcoming compounding difficulties that involve the immiscibility or the insolubility of ingredients. With the aid of some of these surface active agents certain substances such as menthol, volatile oils, and resinous materials may be solubilized to produce pharmaceutically elegant products when dispensed in aqueous vehicles.

Because these agents are generally nontoxic, their usefulness as dispensing aids extends not only to topical applications but also to preparations that are intended for internal use.

The examples presented in this paper illustrate the usefulness of the sorbitans as pharmaceutical adjuncts.

Summary

The use of sorbitans as pharmaceutical adjuncts in solving several typical prescription incompatibilities was investigated. Results indicate that certain sorbitans are useful as dispensing aids in extemporaneous compounding.

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THE PREPARATION OF AROMATIC ELIXIR

By MARTIN S. GREIF* and HAROLD KLEINSINGER†

NUMEROUS investigators have delved rather deeply into the question of how Aromatic Elixir U. S. P. should be prepared. As a result many diverse suggestions have been offered. The Pharmacopeia requires that the elixir contain between 22 and 24% absolute alcohol by volume. According to the monograph the equivalent of 23.5% is used and the preparation must be refiltered several times. In spite of the fact that proper precautions are taken to minimize the extent of evaporation sufficient alcohol usually volatilizes to make the product substandard. Since it is desirable to have a standard elixir, saturated with volatile oils, it is not advisable to replace the evaporated alcohol.

Various filtering aids have been recommended to eliminate the necessity of refiltration and an appreciable loss of alcohol. Several papers have suggested the use of magnesium carbonate (1, 2, 3, 4). This is unsatisfactory due to the alkalinity imparted to the product, inasmuch as an alkaline elixir is incompatible with numerous substances that might be used in the compounding of prescriptions. The original elixir introduced by the U. S. P. in 1890 (5) contained calcium phosphate as the filtering aid. This was replaced with talc in 1910 because the latter gave a finer product. As early as 1917 kieselguhr was recommended (6). The Revision Committee has failed to accept it. That same year J. O. Burge reported the use of paper pulp as a filtering medium, adding the syrup after filtration (7). This method was not widely accepted by pharmacists. In 1931 Krantz and Carr (8) reported that certain electrolytes, dissolved in the elixir prior to filtration, gave a clear product after one to five filtrations. They indicated that the efficiency of the filtering medium depends upon its "capacity of coagulating the oil particles by ionic neutralization and absorption by virtue of its surface properties." The addition of extraneous salts does not, however, offer the best solution to the problem because these salts introduce the possibility of compounding difficulties.

Many contributors have advanced proposals based upon the idea of preparing a non-viscous liquid containing all of the ingredients except the sugar, then filtering this free-flowing liquid rapidly. They then require that the sugar be dissolved in this filtrate (9). Fried's expedient embodied this idea together with a return to calcium phosphate as the filtering medium (10). In 1933 Fantus, *et al.*, published a report which concluded, in essence, the following: "Mix the alcohol with the water, add the spirit and agitate vigorously, repeating the agitation from time to time in the course of twenty-four hours. Filter through a hard filter paper . . ." and finally ". . . dissolve the sucrose in the clear filtrate . . . adding enough water and alcohol in a 2:1 ratio to make 1000 cc." (11). This was never accepted officially because the addition of alcohol to the clear product renders the elixir unsaturated with respect to volatile oils content.

The work of Havenhill and Smolt (12) involved the preparation of a soluble Compound Orange Spirit by removing the terpenes from the constituent oils and then proceeding in a manner similar to that of the U. S. P. This product differs slightly from the official elixir. Lee and Close (13) prepared an aromatic water using the Compound Orange Spirit plus water, triturating with purified talc and then filtering. The requisite quantities of sugar and alcohol were then added. A 90% saving in time of preparation was reported. The elixir was acknowledged as being substandard in respect to volatile oils content.

Several other suggestions have been offered, all based upon an attempt to speed up filtration by the omission of all or part of the syrup until after filtration (14, 15, 16).

An entirely new approach has been proposed by Monte-Bovi (17). His method

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involves the use of a solubilizing agent, namely Tween 20, to prepare an elixir which contains the excess oils in a clear emulsion. This elixir contains sufficient oils in excess to alter the taste considerably. It is possible that other ingredients in the prescriptions to be prepared with the elixir might alter its clarity. The aforenoted report also fails to indicate the effect upon taste of the solubilizing agent, present to the extent of 1.9%.

We have endeavored to prepare an official Aromatic Elixir employing only a change in the technique now used in the U. S. P. monograph. The difficulty in preparing an elegant elixir lies in the clarification of the product after mixing the ingredients. Our method is based upon the concept that the extents of adsorption and absorption of oil by talc are functions of time (18).

Experimental

Several preparations of the elixir were made, using varied orders of mixing. The addition of the syrup to a solution of the spirit in alcohol and subsequent dilution to the proper volume with water was followed by the introduction of talc. The mixture was shaken occasionally during a period of one hour and twenty minutes. The first filtrate obtained was much clearer than that obtained by use of the official method. Further investigation indicated that clarity could be improved by prolonging the time of contact with the talc. A period of three hours' contact yielded maximum efficiency. A study of the addition of talc in small successive portions was undertaken in an endeavor to learn if such a procedure would develop greater adsorptive properties by the talc. In filtering this mixture three different procedures were employed: (*a*) The mixture was filtered through medium texture paper. The filtrate was moderately opalescent. (*b*) It was filtered through a similar paper wetted with 25% alcohol. In this case the filtrate was only slightly opalescent. (*c*) The third method employed wetting the paper with a mixture of 0.5 Gm. of talc and about 15 cc. of the diluted alcohol. A very clear filtrate was obtained. The talc served to reduce the size of the pores in the paper.

Two samples of Aromatic Elixir, one prepared according to the U. S. P. and the other according to the proposed method, were filtered through 8-oz. filters. The following results were noted: The filtrate of the official preparation required several refiltrations before a product of acceptable clarity was obtained. The revised method yielded a filtrate, the first 15 cc. of which was slightly cloudy. The remaining filtrate was perfectly clear. Preparation time was lessened.

Discussion

At all times during the course of this experiment the elixir was prepared using equipment comparable to that found in the average pharmacy or hospital, the purpose being to reproduce the conditions of practical application as closely as possible.

It was found that the most elegant product was obtained when the talc was added in successive portions, over a period of one to two hours. This was probably due to the introduction of fresh adsorbing surfaces at a time when only the smaller, more difficultly adsorbed droplets of oil remained in colloidal dispersion. Occasionally when the syrup and water were added too rapidly the filtrate was found to be slightly opalescent due to the formation of very finely dispersed oil droplets. The addition of the equivalent of 1% of alcohol to the filtrate is sufficient to completely clarify the product and still maintain the elixir in a condition where it is saturated with volatile oils. This small quantity of alcohol will not exceed the limit set forth in the Pharmacopeia since the product, prior to the addition of alcohol, will contain about 23% of the latter, and the official limits are 22–24% alcohol by volume. It was determined that the addition of a major portion of the water to the syrup prior to mixing with the other ingredients resulted in a slow formation of readily adsorbable droplets of oil. This yielded a clearer product than is produced when the syrup and the water are added separately.

The prepared elixir was compared with samples of elixirs obtained from two of the largest and most reputable manufacturers of pharmaceuticals in the country. The following data were recorded:

	Brand "A"	Brand "B"	Prepared Elixir
Specific gravity at 24.5° C.	1.092	1.090	1.090
% Abs. alcohol by volume	23%	23%	23%
Refractive index at 23.0° C.	1.3904	1.3906	1.3904
*p*H	5.3	5.4	5.4

Samples of the prepared elixir, along with samples of one of the commercial elixirs, were presented to pharmacists for comparison. Questions and responses are enumerated as follows:

	Commercial Brand	Prepared Elixir	No Difference
Which appears to be the clearer liquid?	4	3	6
Which tastes more like the official elixir?	3	2	8

Samples were shown to laymen who were also asked to compare the clarity. The data are as follows:

Commercial brand appears clearer—6
Prepared elixir appears clearer—7
No difference in clarity—7

Conclusions

In view of all the foregoing we propose the following changed procedure for the preparation of Aromatic Elixir, maintaining its present formula.

Introduce the spirit and alcohol into a 1000-cc. bottle. Mix the syrup with 350 cc. of water. Add this solution slowly, with agitation, to the alcoholic liquid. Add sufficient water to make 1000 cc. Introduce about one-third of the talc to the bottle, stopper and shake gently every ten to fifteen minutes for one-half hour. Add all but about 0.5 Gm. of the remaining talc in two portions at half-hour intervals, continuing to agitate as before. Allow this mixture to stand in the closed bottle with occasional agitation for about two and one-half hours.

Shake the remaining talc with about 15 cc. of 25% alcohol and pour the mixture over the filter. Discard this filtrate. Filter the elixir, taking the necessary precautions to minimize evaporation. It may be necessary to repass the first portion of the filtrate through the filter. If a clear product is not thus obtained add 10 cc. of alcohol to the entire filtrate.

The prepared elixir was examined after being stored in a closed bottle, at room temperature, for three months. There was no sign of deterioration, whatsoever.

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LIBRARY OF CONGRESS SESQUICENTENNIAL

The Sesquicentennial Anniversary of the Library of Congress was celebrated by a dinner at the Hotel Mayflower in Washington, D. C., on December 12, 1950. Dr. Robert P. Fischelis, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION, represented the ASSOCIATION in honoring the work of the Library of Congress.

Milton E. Lord, retiring president of the American Library Association, presided at the dinner and introduced the speakers, who included Dr. Robert B. Downs, director of the University Library, University of Illinois; Dr. Charles E. Odegaard, executive director, American Council of Learned Societies; Representative Carl Albert, member of the Joint Committee on the Library; Dr. Luther H. Evans, Librarian of Congress. Dr. Herbert Putnam, Librarian Emeritus, was an unscheduled speaker and received an ovation at the conclusion of a short speech recalling early days of the Library.

PHARMACY ROTC ENROLLMENT INCREASES

Pharmacy Reserve Officers Training Corps enrollment for the academic year 1950–51 in the four pharmacy colleges participating in the program totals 503, an increase of 53 per cent over last year's enrollment of 327.

Total enrollment in the 76 medical, dental, veterinary and pharmacy schools participating in the programs increased by 20 per cent to 7372 students. The pharmacy units' gain represents the largest of the four increases, and of the four categories it is the only one in which non-veterans exceed veterans, by a ratio of 55 to 45 per cent. Veterans comprise 67 per cent of the total enrollment in the four categories, a decrease of only 9 per cent from the preceding year.

The four pharmacy colleges participating in the ROTC program are: University of California, San Francisco; University of Minnesota, Minneapolis; Ohio State University, Columbus; and University of Wisconsin, Madison.

NATIONAL DEFENSE AND SECURITY

The pharmacist's place in the nation's plans ☆ ☆ ☆

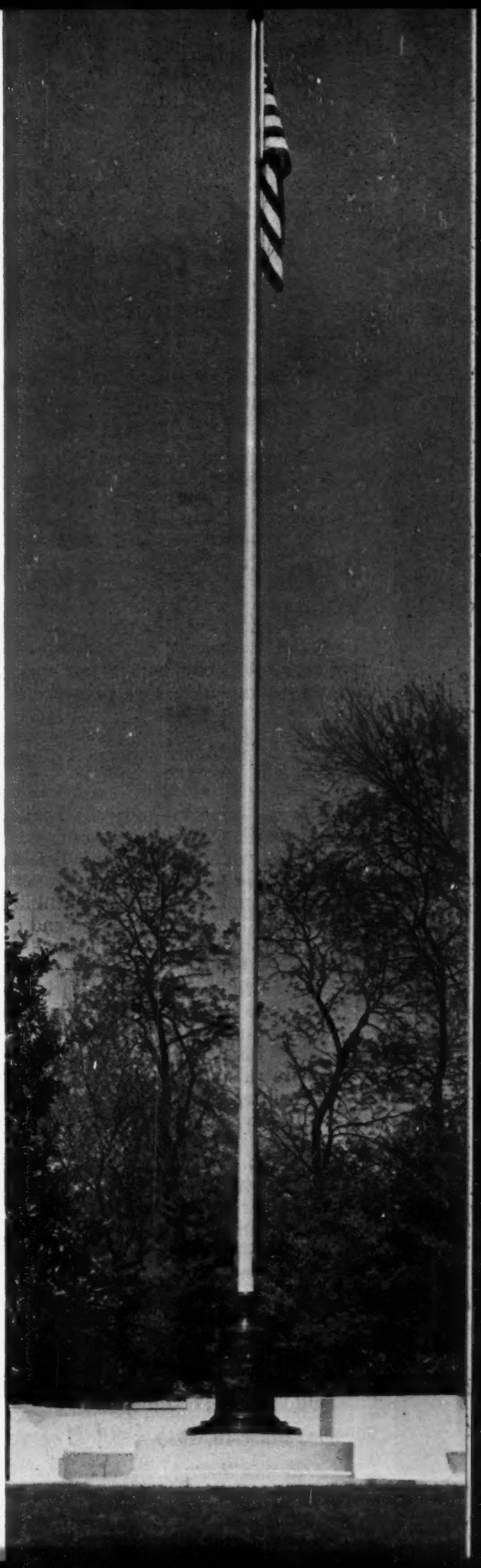
"I summon all citizens to make a united effort for the security and well-being of our beloved country."

Harry S. Truman

The war memorial on the grounds of the AMERICAN PHARMACEUTICAL ASSOCIATION, dedicated in 1948, commemorates the past services of "all pharmacists who served in the wars of our country."

Once more it becomes necessary to prepare for the national defense and again pharmacists will serve in civil or military capacities.

The AMERICAN PHARMACEUTICAL ASSOCIATION offers this section of its JOURNAL to keep pharmacists abreast of national defense and security developments.



A Proclamation

By the President of the United States of America

WHEREAS recent events in Korea and elsewhere constitute a grave threat to the peace of the world and imperil the efforts of this country and those of the United Nations to prevent aggression and armed conflict; and

WHEREAS world conquest by communist imperialism is the goal of the forces of aggression that have been loosed upon the world; and

WHEREAS, if the goal of communist imperialism were to be achieved, the people of this country would no longer enjoy the full and rich life they have with God's help built for themselves and their children; they would no longer enjoy the blessings of the freedom of worshipping as they severally choose, the freedom of reading and listening to what they choose, the right of free speech including the right to criticize their Government, the right to choose those who conduct their Government, the right to engage freely in collective bargaining, the right to engage freely in their own business enterprises, and the many other freedoms and rights which are a part of our way of life; and

WHEREAS the increasing menace of the forces of communist aggression requires that the national defense of the United States be strengthened as speedily as possible:

Now, therefore, I, Harry S. Truman, President of the United States of America, do proclaim the existence of a national emergency, which requires that the military, naval, air, and civilian defenses of this country be strengthened as speedily as possible to the end that we may be able to repel any and all threats against our national security and to fulfill our responsibilities in the efforts being made through the United Nations and otherwise to bring about lasting peace.

I summon all citizens to make a united effort for the security and well-being of our beloved country and to place its needs foremost in thought and action that the full moral and material strength of the Nation may be readied for the dangers which threaten us.

I summon our farmers, our workers in industry, and our businessmen to make a mighty production effort to meet the defense requirements of the Nation and to this end to eliminate all waste and inefficiency and to subordinate all lesser interests to the common good.

I summon every person and every community to make, with a spirit of neighborliness, whatever sacrifices are necessary for the welfare of the Nation.

I summon all State and local leaders and officials to cooperate fully with the military and civilian defense agencies of the United States in the national defense program.

I summon all citizens to be loyal to the principles upon which our Nation is founded, to keep faith with our friends and allies, and to be firm in our devotion to the peaceful purposes for which the United Nations was founded.

I am confident that we will meet the dangers that confront us with courage and determination, strong in the faith that we can thereby "secure the Blessings of Liberty to ourselves and our Posterity."

In Witness Whereof, I have hereunto set my hand and caused the Seal of the United States of America to be affixed.

December 16, 1950 HARRY S. TRUMAN

WITH his proclamation of a national emergency President Truman alerted the public to the crisis it must face and to the sacrifices it must make to overcome it. Chief among these will be the demands of a standing army and the vital need for civilian preparedness.

In his "State of the Union" message, delivered before the eighty-second Congress on January 8, President Truman did not specifically advocate either universal military service or deferment of certain students in certain categories.

He did, however, say that the Selective Service act must be "strengthened and revised" and that a "means must be found for increasing the supply of doctors, nurses, and other trained medical personnel critically needed for the defense effort."

CIVIL DEFENSE AGENCY ESTABLISHED

President Truman signed an order last month establishing the Federal Civil Defense Administration as an independent agency, and appointed Millard F. Caldwell, Jr., as Civil Defense Administrator. Mr. Caldwell is a former governor of Florida as well as former Representative from that state.

The new agency will coordinate, advise and encourage states to enter mutual disaster assistance compacts. It will direct research in training and cooperate in the construction of public bomb shelters. Local authorities will conduct their civilian defense program, but they will be supervised by the federal government.

To accomplish this, the agency will have a budget of $3,100,000,000. Of this amount, $2,250,000,000 will be for bomb shelters. The shelters will be built in target areas that are willing to bear half the cost. The federal government will pay the other half.

As administrator of the new agency, Mr. Caldwell is responsible only to the President. His authority, at the present, is one of planning and administration. In the event of a national emergency, his power would be vastly increased to include the requisitioning of real and personal property for civil defense purposes and the commandeering of the resources of all federal agencies for disaster relief.

Under the Civil Defense Administration, communities will be knitted together for the common good. It can be said in passing that a country well prepared on the civilian front, as well as on the military, is less likely to be attacked.

MOBILIZATION

The President has set a goal for an armed force of 3,500,000 men by the end of this year. The problem now confronting the nation is how best to meet this goal without crippling our scientific and professional manpower resources.

It is certain that the President will present to the new Congress a bill for universal military service. It will be up to Congress to unsnarl the proposals and counter-proposals that are bound to ensue and to come up with a law that is effective enough to meet our commitments in the defense of Western Europe, yet prudent enough not to sap the strength that has made our scientific advances a threat to would-be aggressors.

A number of plans have already been offered to Selective Service and the Defense Department. These are outlined in the following paragraphs. They fall into two general classes: one advocating outright universal service; the other selective deferment of students.

Universal Service

This idea has been championed by Gen. Dwight D. Eisenhower and other leading

men, but most notably by James B. Conant, president of Harvard University and chairman of the Committee on the Present Danger, who has presented a detailed plan requiring every young man of 18 to enter military service for two years. There would be no deferments for college students or anyone else. Those physically unfit would also serve in some capacity. After two years, the government would be morally bound to return the man to civilian life, whereupon he could enter college or industry and feel confident that his tour of duty was completed and that he was free to pursue his career, and serve his country in a civilian capacity.

As head of one of the country's greatest universities, President Conant realized the effect that such a plan could have on some colleges. It could even mean the closing of a few of the smaller colleges, but, in an international conflict, the country's interest comes first in such considerations.

The Association of American Universities, headed by Gordon Gray, former Secretary of the Army and now president of the University of North Carolina, endorses a similar program of military service.

Student Deferment Plan

Foremost among the plans advocating student deferments is the report of the six Scientific Advisory Committees appointed by Gen. Hershey in 1948. Popularly known as the Trytten Committees, these groups were to advise the director of Selective Service as to the policies to be followed in the utilization of scientifically and specially trained personnel in the following fields: Agriculture and Biological Sciences; Engineering Sciences; Humanities; Healing Arts; Physical Sciences; and Social Sciences.

These Committees recognize the gravity of the present crisis and the need for a sizable standing armed force, but they warn that recruitment for this force must not be done in a sweeping gesture, leaving arid the manpower resources of science, industry and the humanities. In a long-range military program, the security of the nation, the Committees contend, depends on its scientific and cultural development as well as its military strength. Their report took cognizance of the Conant plan of drafting all eighteen-year olds, but stated that under their plan only three per cent of this group would be deferred.

The procedure for deferment, under this proposal, starts off with a student registering in an accredited school and passing a nation-wide aptitude test. With this done, he is given a Class II-A(s) rating with Selective Service. He must then maintain a scholastic standing in the upper half of his class, if he is an undergraduate. If he is doing graduate work, the university must certify he is making satisfactory progress.

The Committees do not designate which fields would be declared essential, but warn that the term not be limited to the sciences.

A student would be liable for service after his graduation up to the standard age limit set for the rest of the country, plus a number of years equivalent to the number required for his education. The service he would give would be either with the armed forces or in civilian life, wherever the national interest would best be served.

The above recommendations are flexible and the Committees agree that standards for deferment may have to be changed as military needs vary.

As an adjunct to the over-all plan, the Committees recommend that a national scholarship program be set up by the government to distribute educational opportunity for everyone. The country could tap the reservoirs of talent, in this way, not only of those who could afford higher education, but also of those promising individuals whose potentialities are now wasted because of financial restrictions. A program, so rounded out, the Committees state, would assure a continual flow of essential civilian and military manpower.

High School Program

The New York State Board of Regents has suggested that the regular four-year high school course be telescoped into three to allow young men to receive at least one year of college education before entering military service.

On the other hand, Oscar R. Ewing, Federal Security Administrator, has proposed that high school courses be expanded into five years. The extra year would cover basic military training and allow young men to enter service already trained for duty.

(Continued on Page 36)

CIVIL DEFENSE AGENCY SPECIFIES DUTIES FOR PHARMACISTS

IN THE January 1949 issue of THIS JOURNAL we published a summary of the report issued by the Office of Civil Defense Planning under the direction of the late Russell J. Hopley. This report outlined a plan for mobilizing the civilian population and minimizing panic, destruction and death if an enemy should attack our country.

This report contained a medical care section prepared by a special Medical Advisory Committee, headed by Dr. Perrin Long, professor of preventive medicine at the Johns Hopkins University School of Medicine. AMERICAN PHARMACEUTICAL ASSOCIATION Secretary Robert P. Fischelis was a member of this Advisory Committee. The report was in course of preparation nearly three years ago, and was published about two years ago. It reflected the basic studies which had been made in order to project a satisfactory program of civil defense, although at the time we were not at war.

On December 28, 1950, the Federal Civil Defense Administration, which is a part of the Executive Office of the President, issued a manual entitled *Health Services and Special Weapons Defense*. This manual supplements another report published in September 1950 by the National Security Resources Board under the title *U. S. Civilian Defense*. The latter presented recommendations for the national civil-defense program, including a summary of functional responsibilities for civil-defense health services and special weapons defense. The new manual elaborates on these responsibilities and sets forth a program for developing state and local civil-defense health services.

Persons with civil-defense health services administrative responsibilities should study both publications.

It is obvious that health services, to be most effective, must be fully coordinated with the other civil-defense services. Without adequate fire fighting or rescue service, for example, many lives that could be saved would be lost because first aid and surgical services could not reach the injured. Without excellent coordination between the health services and transportation services, sufficient transport would not be available for movement of personnel casualties and supplies. Without emergency water and electricity provided by the engineering services, hospitals would be crippled. Without the radiological services provided by the health service, fire, police, rescue, and other services could not function safely. These few illustrations of inter-dependence point out the necessity of cooperation between services and of adequate knowledge by each service of the organization, functions and responsibilities of the others.

The term "health services," as used in the manual just published, refers to medical, surgical, dental, nursing, santitation, pharmaceutical, veterinary, laboratory (clinical, public health and x-ray), hospital, radiological and other related services.

A review of the manual *Health Services and Special Weapons Defense* will be found in another section of THIS JOURNAL, but it has seemed appropriate to point out to pharmacists all of the important references to pharmacy in the manual, and to quote these practically verbatim. They constitute the **assignments to pharmacists** and the **scope of pharmaceutical services** as conceived by those who will be in charge of civil-defense. In the determination of these assignments and their scope, the advice of representatives of American pharmacy has been

sought and given, and the AMERICAN PHARMACEUTICAL ASSOCIATION has played its part in supplying essential information, through its administrative officer.

The manual is divided into various chapters and the chapter headings, with pertinent quotations affecting pharmacy and pharmacists, are given below, followed by such comment as may be indicated. Direct quotations from the manual are printed in *italics*, our comment is printed in roman type, The references are to the pages and paragraphs of the official manual.

Leadership of Health Services in Civil Defense

Federal plans for civil-defense health service have been developed with the cooperation and assistance of competent governmental agencies in the health, medical, and related fields. These same agencies would be used for implementation of the plans. Close liaison should be maintained also with the health services of the Department of Defense.[1]

We have cooperated with the U. S. Public Health Service in presenting pharmacy's viewpoint in the development of these plans.

A health service advisory committee for the state civil defense agency should include representatives of the physicians, dentists, nurses, hospital administrators, veterinarians, ***pharmacists,*** *sanitary engineers and other allied specialties.*[2]

State pharmaceutical association officials should take immediate notice of this statement, and if they have not been asked already to name someone to the state advisory committee, they should address the state director of civil-defense at once, calling attention to this paragraph in the manual and offering to name as many representatives of pharmacy as may be required to the advisory committee.

First Aid and Ambulance Services

Staffing First Aid Stations

The round-the-clock operation of a first aid station requires the following minimum staff:

Category	*Number*
Physicians	*2*
Dentists	*3*
Nurses	*3*
Pharmacists	*2*
First aid workers & nurses' aides	*15*
Clerical assistants	*6*
Litter bearers	*150*[3]

A physician should be in charge of the station, but there should be a nonprofessional administrative officer.[4]

Pharmacists *should assume charge of all supply activities and perform any other functions which might be delegated to them by the physician in charge.*[5]

It will be noted that two pharmacists are expected to be available at first aid stations. The physician in charge of the station is expected to assign personnel to other activities, but the major duties of pharmacists with respect to supply are definitely fixed. Supply includes not only drugs and first aid materials. Therefore, pharmacists who are selected for these tasks must educate themselves on the overall supply program, as outlined in the manual. The handling of narcotics presents a special problem in this connection, and is provided for in the program. It is in such categories that the special knowledge and services of pharmacists is of great importance.

Civil Defense Hospital Services

Pharmacy *services might be concentrated on the preparation and distribution of emergency drugs. The capacity of existing* ***pharmaceutical services*** *in the hospital could be greatly increased by the utilization of volunteer* ***pharmacists*** *on a round-the-clock basis.*[6]

Here it should be noted that if hospitals become the centers for emergency medical care, as is to be expected, the hospital pharmacists will be overwhelmed with work which will have to be shared by other pharmacists available in the community. It is well for hospital pharmacists to establish the necessary liaison with privately operated pharmacies in advance, in order that emergencies may be properly met.

Health Supplies for Civil Defense

One of the most difficult and urgent problems facing civil-defense health services is the immediate provision of adequate health supplies following a civilian wartime disaster. An adequate reserve of surgical and other health supplies must be established and located for maximum distribution speed.[7]

It is recognized that the magnitude of a possible disaster is such that no present system exists for meeting adequately the demand for surgical supplies. In the study of the sources of supply, it became apparent that "drug stores are not an adequate civil-defense reservoir because only about 10 to 15 per cent of surgical textiles are distributed through this channel."[8]

The production capacity of the ***drug industry*** *is almost unlimited and is sufficiently dispersed to provide continuous production of vital supplies. The manufacturing potential for biologicals and antibiotics, although it is not in quite so favorable a position as drugs, is reasonably satisfactory.*[9]

A complete civil-defense program in this country, therefore, must provide for building large stores of consumable health, particularly surgical, supplies.[10]

It has sometimes been assumed by pharmacists and pharmaceutical organizations that retail drug stores would make excellent supply stations or even first aid stations. However, this is wishful thinking, since the average pharmacy does not have the space available for storage of the enormous supplies which would be required in a disaster, and the general construction of the interior and storage facilities are such as to make them largely vulnerable and inaccessible in the event of a serious emergency. Pharmacists should, therefore, concentrate on giving their services in the places selected by civil-defense authorities for the storage of supplies and treatment, while giving less attention to making their individual establishments sources of first aid service or extensive storage places for materials.

Requisitions would be of two types: Those for stated numbers of various types of packages, and those for complete assortments for first aid stations or for hospitals.[11]

Complete familiarity with the contents of the various types of packages would be required of all ***pharmacist*** *supervisors. They also would need to know the estimated needs of the various types of stations and hospitals in order to prevent dissipation of supplies through ill-considered or incorrect orders. Complete records of supplies received and issued must be kept.*[12]

The procedure in connection with supplies will be standardized, both as to the supplies themselves and the methods of distribution. The supplies will be packaged and the familiarity of the pharmacist with the contents of packages, storage requirements and anticipated needs, constitutes an important professional service for which considerable study of the entire system will be required on the part of those who are placed in charge of it.

Special Health Services

Maintenance of essential medical and other professional services included a number of important categories. Among them are—

(*a*) *Pediatric services.*
(*b*) *Obstetrical services.*
(*c*) *Mental Hygiene services.*
(*d*) *Dental services.*
(*e*) *Nursing services.*
(*f*) ***Pharmaceutical services.***

Other special health services that must be planned are—

(*g*) *Medical services for evacuees.*
(*h*) *Medical services for emergency centers.*[13]

Pharmacists *constitute a large group of professional personnel who could be used in a great variety of assignments to free physicians, dentists, and nurses for care of casualties. Their professional background enables them to handle the supply responsibilities at all levels of activity. Chapters 4, 5, and 6 outline some of the broad assignments which would require the services of* ***pharmacists*** *(the high spots of these assignments have been covered in the foregoing paragraphs).*[14]

Pharmacies *which survive an attack should continue to operate, but should confine operations to most* ***essential*** *activities such as supplying stocks of important drugs to first aid stations and hospitals, aiding the injured in reaching medical attention, and otherwise helping to provide a stabilizing influence.*[15]

Pharmacists *not engaged in the active operation of* ***pharmacies*** *can be utilized as supply officers or first aid station personnel, and can fill many administrative jobs in the emergency hospitals. Most of these assignments will require little additional training beyond the* ***pharmaceutical professional background.***[16]

In cities where medical personnel would be very short of the number required, ***pharmacists*** *could be trained to assist in first aid station operations, to administer medications, apply dressings, suturings, and other minor surgery under the direction of the physician in charge.*[17]

It will be noted that pharmacists are expected to use their professional background in various directions and to acquire additional skills and techniques which may be essential to relieve medical personnel for strictly medical duties. In addition to the functions here outlined, it is expected that pharmacies will be used in pre-emergency activities, especially for the distribution of literature and general information on civil defense and related matters.

SUMMARY

Obviously, the functions of pharmacists in civil defense must be studied in relation to the whole program. A review of the entire civil-defense program as set forth in the manual is given on page 20 of this issue, but those who are particularly concerned with, and expect to have a part in, the development of a local civil-defense program, should obtain a copy of the manual. *Health Services and Special Weapons Defense*, Federal Civil

Defense Administration, Publication AG-11-1, is obtainable from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. The cost is 60 cents.

It has taken considerable time for the Federal Government to issue this basic document, and as one of the consultants in the preparation of this program, we can testify to the thoroughness with which all of the many problems have been considered. However, one must expect the exigencies of any situation, especially emergencies of a wartime nature, to call for modification and adjustment of the program to fit specific needs. It is precisely because of the unpredictableness of defense requirements that there must be an organization with sufficient flexibility manned by persons who have sufficient ability and grasp of the problem to meet it adequately.

Certainly, anyone who studies the manual must come to the conclusion that pharmacists have been given every opportunity to serve in their professional capacity and it is now necessary for the profession to prove its interest and willingness to prepare for this emergency service, and if necessary, to serve in the capacities indicated.

REFERENCES

The page and paragraph numbers refer to *Health Services and Special Weapons Defense*, U.S. Government Printing Office:

1. p. 35, par. 2.4
2. p. 37, par. 2.10
3. p. 54, par. 4.25
4. p. 54, par. 4.26
5. p. 56, par. 4.30
6. p. 75, par. 5.47
7. p. 96, par. 7.1
8. p. 97, par. 7.3 (e)
9. p. 97, par. 7.4
10. p. 97, par. 7.5
11. p. 100, par. 7.27
12. p. 100, par. 7.28
13. p. 129, par. 10.5
14. p. 139, par. 10.55
15. p. 140, par. 10.56
16. p. 140, par. 10.57
17. p. 140, par. 10.58

NATIONAL DEFENSE AND SECURITY
Other Information of Interest

• *from page 32*

Pharmacists in Civil Defense

Reports from various sections of the country indicate that pharmacists are showing commendable interest in expanding civil defense programs. At the request of the Chester County (Pa.) Pharmaceutical Association, Dr. Charles M. Kerwin, chief surgeon of the Chester County Hospital, addressed the association, in October on the role of pharmacists in civil defense programs ...Professor Walter Singer, of Albany College (N. Y.) discussed the part pharmacists can play in the civil defense set-up before a meeting of the Warren-Washington Saratoga Counties Pharmaceutical Association in October...O. B. Smith, president of the Missouri Pharmaceutical Association was one of the 26 appointees named by Gov. Forrest Smith to the Missouri Defense Council ...The Kansas Pharmaceutical Association appointed Royce Overholser, Niel Fuller, and Fred Vilas to work with local medical defense committees...The State University of Iowa has announced a pilot course in civilian defense that will determine what civilians should know about atomic defense and how it can best be taught them. The university hopes to work out procedures that will help the state and other interested schools. . . . Senior Pharmacist George F. Archambault of the U. S. Public Health Service has given addresses on pharmacy in civil defense before the Richmond Retail Druggists' Association of Virginia and the Potomac Pharmaceutical Association of Arlington, Virginia. . . . Civil defense activities of other state and local groups are recorded in other sections of this issue. The editors welcome reports from all organizations active in this field.

MEMBERSHIP LIST AND DIRECTORY

With the January *Scientific Edition* of THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION every member will receive a Supplement containing the list of members in good standing as of October 31, 1950. In addition to the membership list, this Supplement will also contain the official roster and directory of officers and committees for 1950–51 and an authentic current list of boards of pharmacy and their secretaries, state pharmaceutical associations and their secretaries, a list of the local and student branches with their officers and a list of national, sectional, state and local publications in the field of pharmacy.

This Supplement will also contain a list of National Pharmaceutical Associations and related professional societies and the various conferences and commissions in which the A. PH. A. holds membership.

This annual Supplement is furnished only to members of the A. PH. A. and subscribers to the *Scientific Edition* of THE JOURNAL.

CHEMICAL WARFARE

. . . from an address by an outstanding expert on its medical aspects . . .

UNLESS an enemy can secure a base at or within our borders, the danger of chemical warfare agents being used against the civil populations of this country is not considered great. For the present, civil defense against chemical warfare can be reduced to consideration of a single agent—the so-called nerve gases. Once the sole property of the Nazis, they are now well known to us and our allies and to our potential enemies.

The nerve gases belong to a family of chemicals having the common property of irreversibly inhibiting the vital enzyme, cholinesterase. They are nearly colorless, essentially odorless liquids which yield toxic vapors on evaporation. More toxic than formerly known chemical warfare agents, entrance into the body is gained by inhalation of the vapor, by absorption of the liquid agent through the skin or eyes, or from the gastro-intestinal tract.

Symptoms

The symptoms induced by the nerve gases are due to the inactivation of cholinesterase, which leads to the accumulation of acetylcholine in both the central and peripheral nervous systems, resulting in acetylcholine poisoning. Muscarinic and nicotinic symptoms develop, characterized by a slow pulse and pale or mildly cyanotic skin. In severe cases, the excessive accumulation of acetylcholine at the myoneural junctions causes paralysis of the muscles affecting involuntary acts. A rapid progression of symptoms is exhibited. Exposure to traces of the vapor causes pinpoint constriction of the pupils in a few minutes, usually accompanied by mild difficulty in breathing, coughing, and shortness of breath. A slightly greater exposure induces painful constriction of the focusing muscles of the eye, a drawing sensation or pain in or back of the eyeballs, radiating to the front or back of the head, and often accompanied by moderate photophobia.

At low doses, the paroxysmal bronchospasm does not produce oxygen deficiency, lasts only a few days, and is readily relieved by small doses of atropine. The constriction of the eye muscles, contraction of pupils, and headache are more persistent and do not yield to the usual parenteral doses of atropine. Relief of these symptoms requires the ophthalmic administration of homatropine for mild cases, or repeated instillations of atropine for the more severe cases, until good dilatation of the pupils is obtained, which usually relieves the headache and eye pain promptly. The ophthalmic instillations may have to be repeated several times.

The inhalation of larger doses of vapor, or the absorption of liquid nerve gas by other routes, causes a rapid and severe bronchospasm which obstructs both inhalation and exhalation. The subject becomes confused, cyanotic, may have nausea and vomiting, and soon becomes unconscious. Meanwhile, the blood pressure falls to shock level, the heart slows, and cardiac arrest may occur as a temporary or terminal event.

Treatment

If the subject can be given medical assistance before the symptoms due to oxygen deficiency become too profound and prolonged, large intravenous or intramuscular doses of atropine may completely reverse the cardiorespiratory condition. The bronchial tree relaxes; ventilation of the lungs becomes normal; the oxygen deficiency is rapidly overcome; the stalled heart regains its rhythm and normal rate; and the blood pressure rises above normal and quickly drops again to normal level.

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* Extracted from an address delivered by Colonel John R. Wood, M.C., before the Military and Medicine Session at the 1950 convention of the American Medical Association, and later reprinted in the *Journal of the American Medical Association* (144:606, Oct 21, 1950.). At the time Colonel Wood delivered this paper, he was, and had been for many years, Chief of the Medical Division, Army Chemical Center, Md. He is now Chairman of the Research and Development Board in the Office of the Surgeon General, Army Medical Service, Washington, D. C. He is considered to be an outstanding expert on the medical aspects of chemical warfare.

Relatively large doses of atropine are required in severe cases; in fact, a principal danger lies in undertreatment. Intravenous administration is the route of choice, both from the standpoints of rapidity of action and control of dosage. The intramuscular route may be used if the patient is not cold or in shock. Absorption from the subcutaneous and oral routes is too slow for the initial treatment.

Doses of 2 mg. ($^1/_{30}$ grain) of atropine sulfate should be repeated every few minutes until the cardiorespiratory symptoms are relieved and some dryness of the mouth appears. In some cases, extremely large doses are necessary before signs of atropinization develop. Thereafter, smaller oral or parenteral doses of atropine must be administered every few hours for at least several days, since the poisoning is far more persistent than the duration of effects of atropine.

Some patients will exhibit nicotinic and central nervous system effects, which persist or appear after the muscarinic effects have been controlled with atropine. These symptoms may range from muscular fasciculations and spasmodic twitchings to grand mal type seizures or convulsions. The convulsions may be controlled to the point that they do not threaten life with sodium thiopental, trimethadione (Tridione), or ether anesthesia. Overdosage of thiopental or any barbiturate must be avoided as they act synergistically with the nerve gases in depressing respiration. A 20 per cent solution of tridione, given in intravenous doses of 1 Gm. every 15 minutes, to a maximum of 6 Gm., has the advantage of depressing cortical activity effectively without depressing respiration.

If the severely affected patient cannot be given treatment promptly, he will develop profuse salivation, markedly increased muscular contractions of the intestines, and spasm and incontinence of bladder and bowel. The acute oxygen deficiency and increasing accumulation of acetylcholine in the nervous system lead to intermittent, then almost continuous, grand mal convulsions, until paralysis of the involuntary muscles supervenes.

The use of atropine is dangerous in severe cases in which profound and prolonged oxygen deficiency is present. The administration of atropine in these cases should be delayed until the lungs have been ventilated and the heart has made some recovery. The convulsive seizures can be controlled, or largely prevented from reappearing, by intravenous administration of trimethadione or sodium thiopental, but the urgent problem in these cases is the paralysis of respiration.

At this late stage a considerable relaxation of the bronchial tree occurs spontaneously, but respiratory paralysis prevents effective respiration. The paralysis is both central, due to lack of oxygen, and peripheral, due to muscle fatigue and the blocking of the myoneural junctions of the diaphragm and accessory muscles of respiration by excessive amounts of acetylcholine. The chest is flaccid and collapsed.

The use of an efficient mechanical resuscitator is probably the most practical and reliable method of giving artificial respiration in these cases, if respiration can be administered before irreversible damage from anoxia occurs. A light, portable, hand-powered, bellows-type resuscitator may be the most practical item for emergency rescue work. Animal experiments indicate that forty-five minutes of artificial respiration may be required to restore natural breathing after two or three lethal doses of nerve gas.

If the skin is splashed with liquid nerve gas, it is important to remove the contamination as soon as possible. The safest and most effective method is to swab the skin immediately with an alkaline fluid. Ammonia water, a 5 to 10 per cent solution of sodium carbonate, or a 1 to 2 per cent solution of sodium hydroxide, is suitable for this purpose. If none of these is available immediately, wet any available absorbent material with water and swab the area. Swabbing or rubbing the contaminated skin with dry materials must be avoided, as this greatly increases absorption and toxicity. If only dry absorbent material is available, the excess liquid may be gently blotted from the skin, provided wiping and rubbing are carefully avoided. The contaminated area must be washed with soap and water, or swabbed with an alkaline fluid, as soon thereafter as possible.

Clothing which is splashed with liquid nerve gas should be removed promptly and left outdoors. Patients should not be admitted to hospitals or other enclosed spaces until all liquid nerve gas contaminations of skin and clothing have been eliminated. The vapors from such contaminations will endanger other patients and personnel.

Obituaries

Waldo M. Bowman

Waldo M. Bowman, civic and business leader of Toledo, and co-founder of the Rupp & Bowman Co., sick-room supplies stores, died November 28 at the age of 74. At the time of his death Mr. Bowman was president and general manager of the 55-year-old firm.

Mr. Bowman was born in Bucyrus, Ohio, August 20, 1876, and was educated in the Bucyrus schools. A man with many interests, Mr. Bowman devoted a great deal of time and effort to his three main interests—pharmacy, the Masonic Order, and civic affairs.

In 1936, Mr. Bowman was named the outstanding retail druggist in Ohio by a panel of judges selected from national pharmaceutical organizations. He was the first president of the Toledo Council of Social Agencies and served as its only president until last March when he was named president emeritus.

Past president of the Ohio Pharmaceutical Association and life member of the AMERICAN PHARMACEUTICAL ASSOCIATION, Mr. Bowman was a fellow of the American Public Health Association, a 33d degree Mason, and one of the few laymen made an honorary member of the Toledo Academy of Medicine.

F. Royce Franzoni, Sr.

The sympathy of the members of the AMERICAN PHARMACEUTICAL ASSOCIATION is extended to Mr. F. Royce Franzoni, President of the National Association of Boards of Pharmacy, whose father, Mr. Fred Royce Franzoni, Sr., passed away at the age of 70 on Thursday, December 21, in Washington, D. C. Mr. Franzoni, Sr., was a retired official of the Office of the Surgeon General of the Army, serving in that capacity for 49 years before his retirement in 1947. He was cited for meritorious service by the War Department for his work in World War II.

Russell D. Rainey

Russell D. Rainey, Secretary of the Georgia Pharmaceutical Association since 1942 and best known as the editor-manager of the *Southeastern Drug Journal*, died suddenly on December 29, in Atlanta.

Mr. Rainey for many years was a guiding influence in pharmacy throughout the southeastern States. His final important contribution was the preparation and supervision of the program of the Diamond Jubilee Convention of the Georgia Pharmaceutical Association, a meeting which will long stand as a tribute to his organizing genius.

EIGHTY-FIRST CONGRESS RUSHES EMERGENCY MEASURES TO COMPLETION

The Eighty-first Congress met for its final session at the end of November. Emergency legislation took priority over all other business, and at the end of the session, Congress had succeeded in passing the following bills of particular importance to pharmacists:

An excess-profits tax measure which provides for a 77 per cent tax on profits 85 per cent above the "normal" level. This law also increases all corporation taxes by two percentage points. The tax, retroactive to July 1, 1950, is expected to bring in $3.3 billion in revenue.

A federal civil defense program was created with a budget of $3.1 billion to be spread over a three-year period. Pharmacist-Congressman Carl T. Durham of North Carolina was chairman of the subcommittee of the House Armed Services Committee that took the bill over the hurdles, ironed out the differences, and finally cleared it for action before the end of the session.

A second supplementary appropriation totaling almost $20 billion was added to the omnibus bill passed earlier in the fall. The $75 million for civilian hospital construction, which had been cut out of the omnibus bill, was restored for a brief moment in the supplementary allocation, but the House refused to pass this provision.

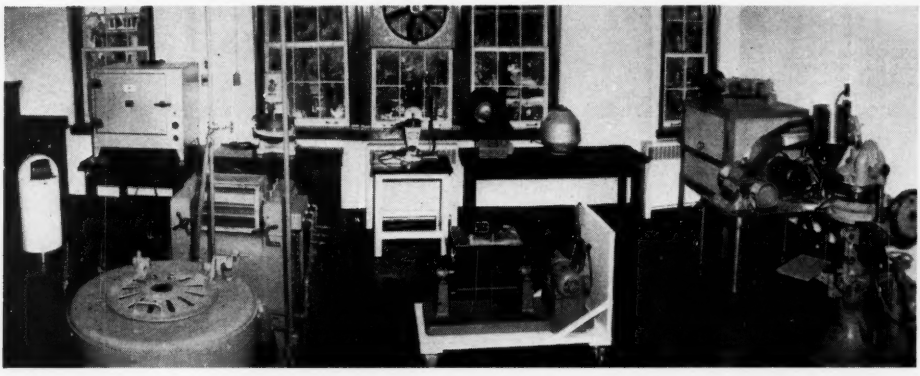
A rent control bill extending controls until March 31, 1951, was signed by President Truman.

A number of appointments were made during the last days of the Eighty-first. Chief among these was that of Charles E. Wilson, president of the General Electric Company and former vice-chairman of the War Production Board in World War II, as director of the Office of Defense Mobilization. With his appointment, the President delegated to Mr. Wilson powers exceeding any ever held by a war mobilizer and made him responsible to the Chief Executive only.

Under the new central mobilization agency, all control units are centralized in an agency that has the scope of the old War Production Board. Within two weeks after Mr. Wilson's arrival, controls were applied to such essential items as copper, tin, and cobalt.

Ernest Brier

Ernest Brier, director of Parke, Davis & Co. since 1939, died at Henry Ford Hospital, Detroit, December 15, at the age of 71. A native of England, Mr. Brier first joined the company in 1903, became foreign sales manager and assistant secretary in 1927, and was elected a director of the company in 1939. In 1945, he was named vice-president in charge of foreign sales and promotion, as well as secretary of the company. Mr. Brier retired from the foreign sales post, but continued active in the business.



PHARMACY COLLEGES and THEIR EQUIPMENT

UNIVERSITY OF FLORIDA INSTALLS NEW EQUIPMENT FOR TEACHING MANUFACTURING ON A LARGE SCALE

NEW COURSES in the field of pharmaceutical manufacturing are being offered in the University of Florida College of Pharmacy for the first time this fall.

Designed for training both undergraduate and graduate students, the courses concentrate on pharmaceutical machinery theory and operation, pharmaceutical formulations, pharmaceutical plant problems, and hospital manufacturing.

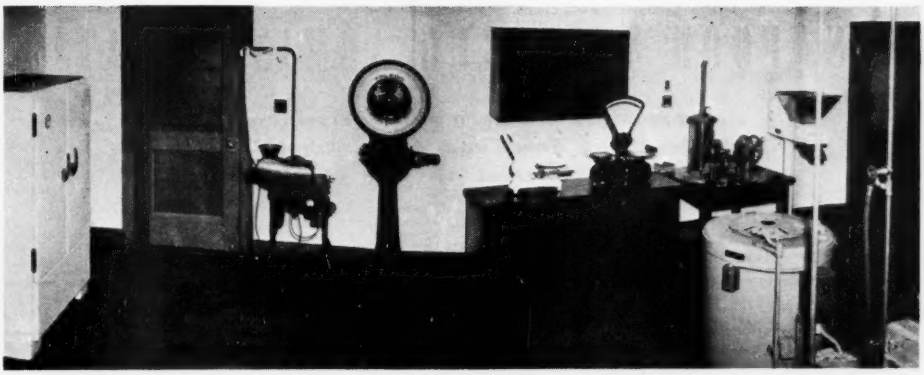
The courses were added to the pharmacy curriculum at Florida in response to a need for trained personnel in this field to work in VA, other government hospitals, and in private hospitals, as well as in pharmaceutical industry, according to Dean P. A. Foote.

In preparation for the new training program, a pilot plant was installed in Leigh Hall, the chemistry-pharmacy building. The plant occupies about 1000 square feet of floor space and has its own steam facilities and power lines. Facilities have been provided for the manufacture of compressed and coated tablets, ointments, ampuls, emulsions, syrups, and elixirs.

The very latest in equipment, most of it made of stainless steel, has been installed in the plant. Included in the plant machinery are: a rotary tablet press (capable of producing 20,000 to 30,000 tablets an hour); various machines necessary for tablet making; homogenizers; steam jacketed and holding tanks; filter press; ointment mill; pulverizers; ampul washing, filling, sealing, and sterilizing equipment; ovens; balances; and scales.

Dean P. A. Foote and Dr. William J. Husa, head professor of pharmacy at the University, are chiefly responsible for introducing this phase of pharmacy into the curriculum. The new equipment was set up under the supervision of Dr. Charles H. Becker, associate professor of pharmacy, who is conducting the first courses.

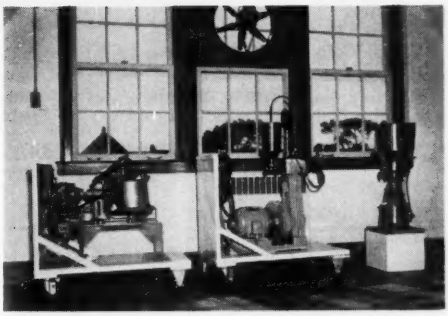
Dr. Becker, who has had several years' experience in the industrial field, was formerly head professor of pharmacy at Duquesne University. He received his doctor's degree from the University of Florida in 1940 and returned to join the faculty in 1947.

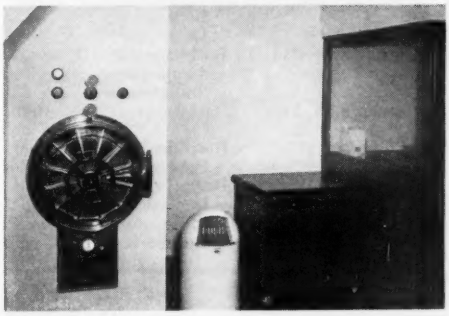


EQUIPMENT PHOTOGRAPHS

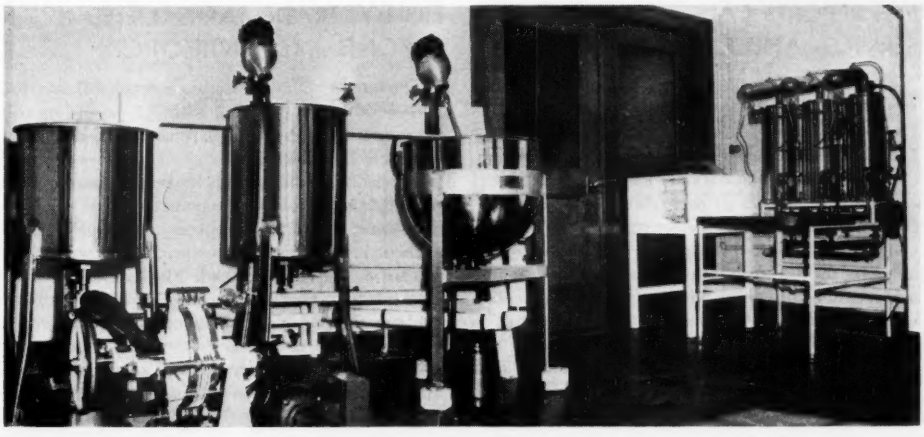
Opposite page:
Tablet and ointment manufacture room.

Reading clockwise on this page:
Equipment used in tablet and ointment production; one section of the liquid manufacturing room; the autoclave for the production of ampuls; stainless steel tanks used in liquid manufacture.





This is the first of a series of articles on pharmaceutical equipment recently installed in several colleges of pharmacy to give students first-hand experience with equipment and methods commonly used in the pharmaceutical industry.



Legal Actions of the

U. S. FOOD AND DRUG ADMINISTRATION

. . . a monthly summary of the terminated cases of the U. S. Food and Drug Administration in fields of interest to the pharmacist . . .

COURT JUDGMENTS—NOVEMBER, 1950

ADULTERATED AND MISBRANDED DRUGS AND DEVICES

Locality	Product	Violation and Sentence
Santa Barbara, Calif.	Veronica Natural Mineral Water —a saline laxative	False and misleading claims. Sentence: firm and 1 defendent fined $20 each.
Omaha, Nebr.	A/D/E Plex capsules; Se-Bex tablets	Misbranded with claims for treatment of arthritis and hay fever. Sentence: corporation fined $250; 1 defendent fined $125.
Omaha, Nebr.	Se-Bex tablets	Misbranded with false claims for hay fever sufferers. Sentence: firm fined $125 and court costs.
Newark, N. J.	Vitamin B Complex tablets	Deficient in thiamine, riboflavin, and nicotinic acid. Sentence: firm fined $2,000.

OVER-THE-COUNTER SALES—PRESCRIPTION DRUGS

Locality	Product	Violation and Sentence
Rushville, Ind.	Barbiturates; Benzedrine; Dexedrine	Sold without physicians' prescriptions. Sentence: firm fined $300; 1 defendent fined $150.
Kansas City, Mo.	Barbiturates; Amphetamine; Sulfadiazine	Sold without physicians' prescriptions. Sentence: firm fined $900; 1 defendent fined $250; 1 defendent fined $200.
Bismarck, N. Dak.	Barbiturates	Refilled without physicians' authorization. Sentence: 1 defendent fined $175 and court costs.
Milwaukee, Wis.	Barbiturates; Benzedrine	Sold without physicians' prescriptions. Sentence: firm fined $250; 2 defendents fined $150 each.
Milwaukee, Wis.	Barbiturates; Benzedrine	Sold without physicians' prescriptions. Sentence: 1 defendent fined $300.
Milwaukee, Wis.	Barbiturates; Benzedrine	Sold without physicians' precriptions. Sentence: 1 defendent fined $300.

PHS REPORTS CANCER SERVICES AND FACILITIES

A new report on the nation's cancer services and facilities, prepared by the Public Health Service's Cancer Institute, is intended to serve as a source book to persons engaged in cancer activities.

In addition to the national summary, the report contains an analysis of each state's cancer legislation, statistics on cancer deaths, number of physicians and registered hospitals, amount of funds available for the official state cancer program, names and locations of cancer clinics and cancer detection centers. Presented for the first time is information on such items as the availability of cytology test services, follow-up services for cancer patients, home nursing services, and home medical services rendered by hospitals.

EIGHTY TRADEMARKS LISTED AMONG 141 ANTIBIOTICS

The number of antibiotics now totals 141, starting with actidione and ending with Xg, according to a list prepared by Dr. A. L. Baron of the research division of S. B. Penick Co.

Of the 141 antibiotics listed by Dr. Baron, seven so-called basic ones are commercially available. These are: penicillin, streptomycin, chloromycetin, aureomycin, bacitracin, tyrothricin, and terramycin. Walter J. Derenberg, Trade-Mark Counsel of the U. S. Patent Office, also gives a list of 80 antibiotic trade-marks registered or about to be registered as of May, 1950.

The information on trade-marks and certification are given in Dr. Baron's *Handbook of Antibiotics*, just published by Reinhold Publishing Company.

A. Ph. A. Branches

LOCAL BRANCHES

"CHALLENGE of Pharmacy" was a talk given by Henry H. Gregg, President of the AMERICAN PHARMACEUTICAL ASSOCIATION, before the November 28 meeting of the **Michigan Branch.** President Gregg asked that those associated in all phases of pharmacy unite and work together for the betterment of the profession. Mr. R. Hendrikson, guest speaker from the Bell Telephone Co., presented a demonstration entitled "Telephone's Place in Television Development."

The following members will serve the Branch during the 1951–52 season: Donald F. Stocks, Detroit, president; Albert R. Pisa, Detroit, vice-president; Gordon F. Goyette, Jr., Detroit, secretary; and E. A. McArthur, Detroit, treasurer. The next regular meeting is scheduled for January 30.

Colonel David G. McIntosh III, director of civil defense for Maryland, addressed a joint meeting of the **Baltimore Branch** and the Baltimore Retail Druggists Association, November 16. Colonel McIntosh explained official assignments of all citizens in the civil defense organization.

The **Chicago Branch** held a joint meeting with the Illinois Branch of the American Society of Hospital Pharmacists December 12. Dr. Samuel Soskin Director of the Medical Research Institute, Michael Reese Hospital, gave a talk entitled "Where Are We Going in Metabolic Research?"

The **Philadelphia Branch** presented Mr. Edson F. Woodward, S. B. Penick & Co., and Dr. T. P. Haas, Curator of the Museum, Philadelphia College of Pharmacy and Science, as guest speakers at the December 14 meeting. Mr. Woodward spoke on "The Upjohn-Penick Expedition to Africa," of which he was in charge, and Dr. Haas' speech dealt with "Color Pictures of Tropical and Carnivorous Plants."

The January 17 meeting of the **Western New York Branch** featured a panel discussion on "The Pharmacist's Role in the Dispensing of Diabetic Products and Their Prescription Accessories."

The **Western Nebraska Branch** held its regular monthly meeting November 15, with Mr. Leonard Powers and Miss Cora Mae Briggs, president and secretary, respectively, of the Nebraska Pharmaceutical Association, as guests.

STUDENT BRANCHES

Wayne University Branch has arranged a monthly program for the balance of the college year. Officers for the 1950–51 term are Stanley J. Kaften, president; Phillip Vasquez, Jr., vice-president; Marion Hoppe, secretary; Charles R. Gray, Jr., corresponding secretary; and Donald F. Melcher, treasurer.

An open forum entitled "Opportunities in Pharmacy" was the first program of the year for members of the **St. Louis College of Pharmacy and Allied Sciences Branch.** Positions available to registered pharmacists in pharmacy, industry, and government were discussed.

New officers of the **Rutgers University Branch** are: Phillip Sachs, president; Bernard M. Gecker, vice-president; Rita Doctofsky, secretary; and Samuel Jaffe, treasurer.

Newly elected officers of the **University of Connecticut Branch** are: Robert Fineberg, president; Charles Sharek, vice-president; Dorothy Lupariello, treasurer; and Emily Matyi, secretary. A reception for the freshman class was held at the New Haven Lawn Club, November 10.

Columbia University Branch is planning an annual Exhibition Award to be given to a campus organization for the best pharmacy exhibit. A sound film, "For Us the Living," was shown during the November 21 meeting.

Two display cases have been donated to the Columbia University College of Pharmacy by the Columbia University Branch. The cases are being utilized to bring new products to the attention of the entire student body. Newly elected officers of the Student Branch are David Dimendberg, president; Samuel Miller, vice-president; Edward Engelke, treasurer; and Hilda Colunga, secretary.

Henry H. Gregg, President of the AMERICAN PHARMACEUTICAL ASSOCIATION, addressed students of the **Detroit Institute of Technology College of Pharmacy** at a special meeting conducted by the **Student Branch** November 28. President Gregg spoke on "The Profession of Pharmacy Today."

The **University of New Mexico Branch** sponsored a Pharmacy Dance December 2. Earl Weaver is the new Branch vice-president.

(Continued on Page 44)

STUDENT BRANCHES • • • • • *from page 43*

An educational tour to Detroit was sponsored in November by the **Howard College Branch** for junior and senior pharmacy students and their wives. As guests of Parke, Davis & Co., the group was shown the company's facilities for the development of new drugs and the methods used for manufacturing drugs on a large scale.

Recently elected to office in the **University of Nebraska Branch** are: Leland C. Lucke, president; Louise Mues, secretary; and Robert Waters, treasurer.

Officers recently installed in the **University of Pittsburgh Branch** are: Dominic Parlavecchio, president; Bernard Ivanschultz, 1st vice-president; Daniel Davies, 2nd vice-president; Margaret Madarasz, secretary; and Gabriella Roba, treasurer. A business meeting was held November 9.

The **University of Iowa Branch** held its regular meeting on November 15. Dr. McKee, of the Bacteriology Department, spoke on influenza research. An executive board meeting was held October 19.

Fall meetings of the **University of Buffalo Branch** were held October 12 and November 9. Dr. Edward M. Bridge, professor of pharmacology at the college, discussed "Radioisotopes and Their Medical and Pharmaceutical Applications" at the October 12 meeting. The November 9 meeting featured Mr. Fred McNabb of Eli Lilly and Company, discussing "Opportunities for Pharmacy Graduates in Industry." A panel discussion on needed revisions in the pharmacy curriculum will be featured at the December 14 meeting.

Dr. Philip A. Boyer, Lederle Laboratories Division, American Cyanamide Company, was guest speaker at the November 8 meeting of the **George Washington University Branch.** Dr. Boyer lectured on "Aureomycin."

Philadelphia College of Pharmacy and Science Branch held its second meeting of the year, December 5, with pharmacy students from Temple University as guests. Dr. Martin Barr, faculty member at the University and first lieutenant in the Medical Service Corps, U. S. Army, gave an informative talk on the history of the Medical Corps.

The November meeting of the **University of Utah Branch** was held November 15. A discussion session was conducted by Dr. Broadbent, chairman of the Committee for Student Deferment, who answered questions concerning the status of students in the service.

New officers of the **Howard University Branch** who will serve during the 1950–51 term are: Rebecca Davis, president; Carroll B. Lee, vice-president; Phyllis L. Campbell, secretary; and Charles C. Smith, Jr., treasurer.

PROGRESS IN THE TREATMENT OF LEPROSY

by PAUL T. ERICKSON, M.D.*

The most important single therapeutic advance for leprosy occurred with the introduction of the sulfone drugs for the treatment of this disease in 1941. At the present time, the sulfones have largely replaced chaulmoogra oil except in locations where the sulfones are not readily available and in the milder types of the disease. The sulfones, aided by the antibiotics, together with certain general measures for improving the resistance of the patient and caring for complications, have materially altered the outlook for the leprosy patient and the curability of the disease.

Sulfone therapy is most effective on the specific skin and mucous membrane lesions. Nerve and eye complications are more resistant. Definite improvement is noted in lesions of the skin and mucous membranes in from six to twelve months. Although clinical improvement is progressive, sustained, and followed by a reduction of leprosy bacilli in the lesions, a complete disappearance of the bacilli usually requires extended treatment. Arrest of the disease is obtained, but relapse may occur unless administration of the sulfones is continued in reduced dosage.

Dihydrostreptomycin treatment closely parallels that of the sulfones. Because of neurotoxic effects, such treatment cannot be continued sufficiently long to determine its ability to effect an arrest of the disease. It produces definite beneficial effects, however, and short courses of treatment are recommended as an adjunct to the sulfones in certain leprous conditions. Combined or alternating use of the sulfones and dihydrostreptomycin or of two or more sulfones is the treatment of choice.

Among the experimental drugs used, aureomycin, para-amino salicylic acid, and tibione have shown early beneficial effects on leprous lesions. Tibione is considered to be the most promising drug outside the sulfone series for further clinical trial. Limited experience with cortisone has shown that it might be of value for the control of lepra reactions.

* U. S. Public Health Service, Lexington, Ky.

Abstracted from a paper presented before the New York Academy of Sciences Conference on Leprosy, November 10–11, 1950. The full paper will appear shortly in a monograph on "Leprosy" in the *Annals* of The New York Academy of Sciences.

INFORMATION SERVICE

Members of the American Pharmaceutical Association are invited to submit their professional problems to the Journal, 2215 Constitution Ave., N. W., Washington 7, D. C., giving all pertinent details. Advisory service is provided by the A. Ph. A. library and technical staff and the Journal panel of technical consultants.

PRECIPITATE PROBLEMS

Please advise me regarding the following:

		Gm. or cc.
℞ 1.	*Aminophyllin*	8.0
	Ephedrine sulfate	3.0
	Lime water	
	Benadryl Elixir aa q.s. ad	240.0

(*a*) *What is the cause of the precipitate which forms? When the lime water is omitted and distilled water used, there is no precipitate.*

(*b*) *When the aminophyllin is dissolved in the lime water, the elixir added, and the ephedrine added last, a heavy precipitate forms.*

(*c*) *When the ephedrine is first dissolved in the lime water, the aminophyllin added, and then the elixir added, the precipitation does not occur so readily.*

(*d*) *When the ephedrine is dissolved in the lime water and the Benadryl added next, a heavy precipitate forms which quickly disappears when the aminophyllin is added. This method produces a mixture which does not form a precipitate so readily, the liquid remaining clear for an hour. The precipitate which does form is very fine.*

		Gm. or cc.
℞ 2.	*Aminophyllin*	0.75
	Benadryl	0.05
	Demerol	0.05
	Aqua ad	25.00

Make 1000 cc. solution.

(*a*) *Will the alkalinity of the aminophyllin precipitate Demerol?*

(*b*) *What is the best method of compounding this prescription?*

R. L. M., New York, N. Y.

Benadryl Elixir, an ingredient of the first prescription, is a proprietary product and we therefore do not know its exact composition. We do know however, that Benadryl is in the form of the hydrochloride and that it will react with the aminophyllin and with the lime water to form Benadryl base which is less soluble.

The lime water would also cause the ephedrine sulfate to be converted to ephedrine base. If there is enough water and alcohol present to keep these bases in solution you would have no difficulty. It is obvious that there is insufficient water, since a precipitate is formed.

It is recommended, therefore, that the ephedrine sulfate be incorporated into the Benadryl Elixir as a separate prescription and that the aminophyllin be dispensed separately. A lime water solution of aminophyllin would be satisfactory, though it will form a precipitate on standing due to the absorption of carbon dioxide.

The second prescription again combines the basic aminophyllin with hydrochlorides of Benadryl and Demerol. We would suggest that the Benadryl and Demerol be dispensed together and that aminophyllin be dispensed as a separate prescription.

OBTAINING CLEAR MIXTURE

Please advise us as to the best method of preparing the following prescription:

		Gm. or cc.
℞	*Ammonium benzoate*	2.0
	Hyoscyamus tincture	15.0
	Ammonium acetate solution q.s.	60.0

It seems that the acidity of the ammonium acetate solution results in the release of a white precipitate of benzoic acid. Any attempt to neutralize the mixture with sodium bicarbonate results in the release of ammonia gas.—S. T., Buffalo, N. Y.

We have been able to prepare the prescription you mention in a satisfactory manner as follows:

Dissolve the ammonium benzoate in the ammonium acetate solution, warming the mixture gently to obtain complete solution; then add the hyoscyamus tincture.

The finished preparation was cloudy due to the resins and gums contained in the tincture which were thrown out by dilution of the alcohol. No precipitate of benzoic acid was formed. The *p*H of the final mixture was about 7.

By adding one drop of Tween-20 to the mixture the resins of hyoscyamus were solubilized to make the mixture completely clear and brilliant in color.

IN AND OUT OF HEADQUARTERS IN OCTOBER, NOVEMBER AND DECEMBER

FOREIGN VISITORS

Many visitors from foreign shores were greeted at the American Institute of Pharmacy in the last quarter of 1950. Countries represented included Denmark, Colombia, England, France, Japan, Norway, Russia, Sweden, and Venezuela. Included among callers were educators, practicing pharmacists, manufacturers and government officials, all of whom stimulated valuable exchange of views on current pharmaceutical affairs which help to give the staff perspective.

U. S. VISITORS

Among the visitors from various states in our own country we were glad to welcome Dr. and Mrs. Fred Lascoff of New York; Mr. and Mrs. Chester Bowles of Rochester, N. Y.; Professor Louis Busse of Wisconsin University; N. A. B. P. Secretary P. H. Costello; A. PH. A. President Gregg and Treasurer Schaefer; Don E. Francke; many delegates to the National Drug Trade Conference, and others. Our register of visitors also includes many pharmacists who stop in on vacation or business trips which carry them to or through Washington. It is always a pleasure for the headquarters staff to greet A. PH. A. members and to show them where and how their ASSOCIATION carries on its work.

PRESCRIPTION REFILLING

Much attention was given to perfecting briefs and comment on the prescription renewal regulation. Frequent conferences with attorneys Thurman Arnold and Walton Hamilton, and, on October 5, the informal hearing before Administrator Oscar Ewing to decide whether there should be a formal hearing.

On December 5 came the notice of a proposed ruling which admits that refilling is lawful under certain conditions and allowed thirty days in which to file comment. Now busy with counsel preparing briefs to interpret the proposed ruling which must be filed by January 5.

PHARMACY WEEK

The Williamsburg, Va. restoration of the Colonial Apothecary Shop with appropriate opening exercises on October 27, inaugurated National Pharmacy Week which ended November 4 and marked a high spot in the observance of this annual A. PH. A. project.

IMPORTANT MEETINGS

Throughout the quarter, official and unofficial gatherings of educators, scientists, practitioners of the health professions and other groups met to discuss emergency programs and plans growing out of the international situation. In all of these discussions A. PH. A. was represented and thus kept fully aware of what goes on. Most notable meetings were those of the American Council on Education in October which brought the high brass of over 500 colleges and universities to Washington and emphasized the seriousness of the student deferment problem.

SECRETARY'S TRAVELS

As part of the trip to Long Beach, California to attend a meeting of the N. A. R. D. and to attend the conferences of secretaries of state pharmaceutical associations, we visited and addressed student branches at the University of Southern California in Los Angeles; the University of Arizona at Tucson; and the University of Texas at Austin. Everywhere pharmacy students are alert to the general problems of the profession and greatly concerned with the effect of mobilization on their future.

A visit to the Northern New Jersey Branch on November 15 where the prescription refill regulations were the chief topic for discussion and the meetings of the American Pharmaceutical Manufacturers' Association on November 27, 28, and 29 with the Scientific Award dinner on the evening of November 28 were high spots in our eastern travels. The special interest of the A. M. A. in the prescription refill problem was reflected in the time devoted by the Council on Pharmacy and Chemistry to discussion of this subject on November 10 at Chicago, with representatives of pharmaceutical organizations, including A. PH. A. The doctors seemed to be impressed with the seriousness of the problem and ready to do their part.

THE YEAR'S END

The year's end finds us closing our affairs with membership at an all time high and expenditures satisfactorily balanced by income with the latter somewhat ahead of the former, which is always pleasing to the council.

The total membership almost reached 24,000 by December 31, 1950. Of these, more than 14,000 are active members and nearly 10,000 are associate (student) members. Even though student enrollment in the colleges of pharmacy of the nation is lower in 1950, our student membership is higher than it was in 1949.

With this summary we close "Typical Days" for 1950, extending to our readers best wishes for a Happy New Year.

ADR

DENTAL REMEDIES RECENTLY ACCEPTED BY A. D. A. COUNCIL ON DENTAL THERAPEUTICS

The classification of products by the Council on Dental Therapeutics of the American Dental Association has been described in a previous report [THIS JOURNAL, **11**, *371 (1950)*].

THE FOLLOWING PRODUCTS ARE CLASSIFIED IN A. D. R. GROUP A:

Ace-Caf-Edine Tablets (J. C. Lawless): Each tablet contains acetylsalicylic acid, 0.23 Gm.; acetophenetidin, 0.15 Gm.; caffeine alkaloid, 30 mg., and excipients. (See *A. D. R.*, ed., 15 p. 166.)

Acetidine Tablets with Codeine Phosphate 1/4 gr. (Sharp & Dohme, Inc.): Each tablet contains codeine phosphate, 0.0162 Gm.; acetophenetidin, 0.1176 Gm.; caffeine, anhydrous, 0.0294 Gm.; acetylsalicylic acid, 0.1770 Gm., and excipients. (See *A. D. R.*, ed. 15, p. 166.)

Acetidine Tablets with Codeine Phosphate 1/2 gr. (Sharp & Dohme, Inc.): Each tablet contains codeine phosphate, 0.0324 Gm.; acetophenetidin, 0.1176 Gm.; caffeine, anhydrous, 0.0294 Gm.; acetylsalicylic acid, 0.1770 Gm., and excipients. (See *A. D. R.*, ed. 15, p. 166.)

Adhes-Illin Penicillin Ointment (Poloris Co.): An ointment containing penicillin G sodium, 10,000 units per gram, in a base consisting of carboxymethylcellulose, 23.1%, and petrolatum, 76.9%. Marketed in 1.5-Gm. collapsible tubes. (See *A. D. R.*, ed. 15, p. 40.)

Council Report:

Suggested for use as an adjunct in the treatment of periodontal disease associated with penicillin-susceptible organisms, especially periocoronitis and necrotic gingivitis.

The carboxymethylcellulose swells in the presence of moisture and becomes adhesive. It is recommended that one tube (1.5 Gm.) be squeezed on the buccal surfaces of the teeth and allowed to penetrate into the interproximal area, being allowed to remain for 3 to 4 hours. Evidence indicates that the concentration of penicillin will rise to a level of about 300 units per ml. of saliva, and remain at a demonstrable level for 3+ hours.

Benzocaine-Chlorobutanol Solution (J. C. Lawless): Each 100 cc. contains benzocaine, 16.5 Gm.; chlorobutanol, 5 Gm.; clove oil, 0.5 cc.; alcohol. 78 cc., and color. (See *A. D. R.*, ed. 15, p. 37.)

Ethyl Aminobenzoate Tablets (J. C. Lawless): Each tablet contains ethyl aminobenzoate, 0.016 Gm.; cane sugar; milk sugar, and flavoring. (See *A. D. R.*, ed. 15, p. 37.)

Mertricone Disinfecting Solution (William H. Rorer, Inc.): A solution containing phenylmercuric borate, 0.157%; sodium pentachlorophenate, 0.175%; and inert materials. (See *A. D. R.*, ed. 15, p. 66.)

Council Report:

Mertricone Disinfecting Solution is believed to be approximately equivalent to other mercurial preparations accepted by the Council for disinfection of dental instruments. None of these solutions should be relied upon to insure thorough disinfection in the presence of spore-bearing organisms or Mycobacterium tuberculosis.

Penicillin Tablets, Buffered 50,000 Units, 100,000 Units, 250,000 Units and 500,000 Units— Orapen (Schenley Laboratories, Inc.): Contain crystalline penicillin G potassium, calcium carbonate and excipients. (See *A. D. R.*, ed. 15, p. 46.)

Penicillin Troches, 5000 Units (Schenley Laboratories, Inc.): Contain crystalline penicillin G potassium in a flavored base. (See *A. D. R.*, ed. 15, p. 46.)

Pentothal Sodium (Abbott Laboratories): Sterile thiopental sodium. Marketed in ampoules 0.5 Gm., 1.0 Gm., 5 Gm. (multiple dose). (See *A. D. R.*, ed. 15, p. 18.)

Council Report:

The actions and uses of thiopental sodium are essentially similar to those of pentobarbital sodium except that thiopental sodium is effective in smaller doses and the action is of briefer duration. When injected intravenously it acts rapidly and the recovery period is usually short. The recovery period will be longer if premedication is used.

Thiopental sodium is not an anesthetic to be used in the dental office unless special facilities are available to care for possible complications. Its administration requires special training. The intravenous use of barbiturates may be a valuable procedure, but such use is potentially dangerous and should be undertaken only by experts, and for short operations.

Thiopental sodium should be employed only by competent experienced persons who have at hand all the agents and facilities to combat respiratory depression, laryngospasm, and carbon dioxide-oxygen imbalance.

For most dental surgery only a light plane of anesthesia is required. Preanesthetic medication with a barbiturate and atropine sulfate is often desirable. The dosage of thiopental sodium cannot be accurately judged by the weight, age, sex or metabolic state of the patient. It must be adjusted in accordance with its effect on the individual. This requires experience and skill. Suggested dosages in dental procedures appear in the literature.

Phenobarbital Tablets, 1/2 grain, 1 1/2 grains (J. C. Lawless): (See *A. D. R.*, ed. 15, p. 162.)

Potassium-Sodium Carbonate Mixture (J. C. Lawless): Each 100 Gm. contains potassium carbonate, 55.56 Gm.; sodium carbonate monohydrate, 11.11 Gm., and glycerin, 33.33 Gm. (See *A. D. R.*, ed. 15, p. 13.)

Vitamin C (Ascorbic Acid) Tablets (J. C. Lawless): Each tablet contains ascorbic acid, 100 mg., and excipients. (See *A. D. R.*, ed. 15, p. 134.)

Waite's Topical Paste (Cook-Waite Laboratories, Inc.): Each 100 Gm. contains tetracaine HCl, 2.28 Gm; benzalkonium chloride, 10 Gm.; glycerin, 10 Gm.; barium sulfate powder, 10 Gm.; methyl cellulose, 2.92 Gm., and water. (See *A. D. R.*, ed. 15, p. 36.)

THE FOLLOWING PRODUCT IS CLASSIFIED IN A. D. R. GROUP B:

Chembar (L. D. Caulk Co.): A cavity lining material, each 100 Gm. contains calcium hydroxide, 6 Gm.; zinc oxide, 6 Gm.; suspended in a chloroform solution of a resinous material. (See J. A. D. A., 41:760.)

Council Report:

Chembar is said to prevent the passage of phosphoric acid from silicate or zinc phosphate cements into the dentin....

The Council believes that the work reported reasonably establishes the usefulness of this formula, and justifies the classification of this product in Group B. Any further available evidence concerning this product will be reviewed when the classification of Chembar is reconsidered at the end of the one-year period.

THE FOLLOWING GENERAL CLASSES OF PRODUCTS HAVE BEEN CLASSIFIED IN A. D. R. GROUP D:

Fluoride preparations for use as dietary supplements.

Arsenic-containing products for pulp devitalization.

Medicated mouth washes.

ACCEPTED DENTAL REMEDIES—1951 EDITION NOW AVAILABLE

The 1951 edition of *Accepted Dental Remedies*, featuring an evaluation of the effectiveness and safety of several hundred dental drugs and therapeutic agents, is now being distributed to dentists.

Compiled by the Council on Dental Therapeutics, the 1951 edition includes the revised provisions of the Council on Dental Therapeutics for acceptance of products, information on other agencies responsible for drug standards, an up-to-date listing of commercial dental products, current reports on therapeutic agents, and principles of prescription writing.

Additional information and copies of the book ($1.50) may be obtained by writing to the Order Department, American Dental Association, 222 E. Superior St., Chicago 11, Illinois.

TELEVISION DIAGNOSIS

Thousands of interested laymen in five cities peered into the chest cavity of a patient in Baltimore, and heard three doctors, one in New York, one in Chicago, and one in Baltimore, hold an intercity consultation and diagnosis via television last month. The program was promoted by Johns Hopkins University and was carried over the DuMont network to New York, Chicago, Baltimore, Washington, and Columbus, Ohio.

The program was revolutionary not only because it offered the public a chance to sit in on a medical consultation, but also because it introduced a new X-ray machine by which, according to a statement from Johns Hopkins officials, X-ray images, generally of low brightness, are amplified from 300 to 3000 times. The brightened images are then viewed on a television receiving tube.

The new device opens the possibility that some day, with the help of television, a patient may have diagnosis by the country's leading specialists, even though they are separated by thousands of miles.

The machine was developed by Dr. Russell H. Morgan, chief of radiology at the Johns Hopkins hospital, with the assistance of the U. S. Public Health Service and the RCA laboratories.

MISSISSIPPI PHARMACY MANPOWER COMMITTEE

Word has been received from Secretary Chester E. Jones of the Mississippi Board of Pharmacy that a joint committee has been appointed to cooperate with national organizations and committees in the development of the pharmacal manpower problems of that state. Members will be: J. E. McDuffie, President of the Mississippi Pharmacutical Association, Dean E. L. Hammond, School of Pharmacy of the University of Mississippi, and Chester E. Jones, executive secretary, Board of Pharmacy.

New A.Ph.A. Members

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

ARIZONA
Gorosave, Lionel C., Tucson

ARKANSAS
Blodgett, John H., Jacksonville
Forgy, Glenn B., Hot Springs
Lipson, Jack I., West Memphis

CALIFORNIA
Conley, J. W., Monrovia
Ellis, W. H., Los Angeles
Kanemoto, George M., Los Angeles
McLain, Monte P., Aptos
Mudra, Phillips O., Alhambra
O'Hara, Thomas E., Marysville
Robinson, Robert B., Manhattan Beach
Tonsfeldt, Hugh H., El Cerrito
Vinci, B. A., San Marino
Weisberg, Max, Los Angeles

CONNECTICUT
Burns, Frances W., Fairfield
Fried, Betty P., New Haven
Glassman, Sanford, New London
Moses, Nathan, Manchester
O'Keefe, J. Gerald, Hartford
Sister Mary Visitation McCarthy, Waterbury
Sister St. Catherine Deschenes, Waterbury
Wilson, John R., Stamford

DELAWARE
Connor, Arthur E., Hockessin
Dougherty, Albert, Wilmington
Hodge, Arnold L., Dover

DISTRICT OF COLUMBIA
Rosen, Sam, Washington

FLORIDA
Lane, James F., Tampa
Manns, Arnold L., St. Petersburg
Miley, Ralph K., Tampa
Rosenblatt, Isadore A., Miami
Simonet, Jose, Miami
Sineath, B. C., Belle Glade
Wrigley, Wm. W., Hastings

GEORGIA
Amos, Miles G., Atlanta
Bose, R. J., Chamblee
Casey, Frank, Atlanta
Cox, Thomas H., Atlanta
Farr, Charlie C., Gainesville
Fleming, James E., Wrens
Hames, Carter A., Atlanta
Jarrard, Rudyard K., Cochran
Lee, William R., McCaysville
Merlin, Libbie, Atlanta

ILLINOIS
Benneker, J. H., Chicago
Campbell, Lena S., Wilmette
Chrobuck, Joseph T., Pekin
Sister M. Vincentiana, Chicago Heights

INDIANA
Bell, Joseph R., Marion
Brady, Bruno H., Beech Grove
Cain, Irvin W., Indianapolis
Ford, Clarence S., West Lafayette
Gantz, J. R., Odon
Kaminski, Alfons B., East Gary
Newcomb, L. J., North Liberty
Sandleben, Jack H., Evansville
Strafford, William C., Plainfield
Verhoestra, Arthur J., South Bend

KANSAS
Lakin, Everett D., Newton
Morrell, Kenneth N., Russell
Stratton, D. A., Beloit
Woods, J. R., Onaga

KENTUCKY
Lewis, Fred L., Jr., Harlan
Nelson, Albert A., Benton
O'Bryan, Inez W., Louisville
Passamaneck, Sidney B., Louisville
Potts, Delmon, Owensboro
Witt, Victor L., Jr., Irvine

LOUISIANA
Hart, J. L., Mansfield

MARYLAND
Ogle, Nellie A., Takoma Park

MASSACHUSETTS
Halpern, J., Dorchester
Michaelson, Joseph H., Worcester

MICHIGAN
Bonsall, Joseph L., Reed City
Greenwood, Donald, Detroit
Korinsky, Morris, Detroit
Ruffino, Faro, Detroit
Shepard, James E., Wyandotte
Swieca, Michael A., Detroit
Wainer, Michael H., Detroit
Walker, Graydon L., Grosse Pointe Park
Whale, Arthur R., Detroit
Zuchlewski, Alexander F., Detroit

MINNESOTA
Dahl, Joseph E., Minneapolis
Winslow, Wayne F., Elkton

MONTANA
Dolan, William R., Troy
Lyden, James B., Butte
Neils, LeAnne T., Libby

NEBRASKA
Hawley, Ross M., Red Cloud
Lindersmith, C. L., Sr., Fairbury
Morris, Floyd H., Arapahoe
Wagner, Leo M., So. Sioux City

NEVADA
Culbert, Gerald, McGill
Farnesi, Jack F., Reno
Hillyard, Thomas E., Fallon

NEW JERSEY
Farina, Lawrence V., Newark
Jackson, Alfred J., Jr., N. Wildwood
Puhan, Joseph M., Fords
Rosenblum, Edwin A., Atlantic City
Sandbach, Elmer E., Orange
Teeter, Albert A., Rumson
Zalewski, Peter, Passaic

NEW MEXICO
Arnold, George R., Raton
Johnson, Dr. J. J., Jr., Las Vagas

NEW YORK
Bonbrake, A. E., Forest Hills
Coryllos, Elizabeth V. D., New York
Mudge, Harvey D., Schenectady
Russo, Michael F., New York
Voetter, A. G., White Plains
White, R. K., Jackson Heights

NORTH CAROLINA
Burbage, W. H., Albemarle
Paramore, Rex A., Raleigh
Quinn, Emory S., Durham
Simmons, Wm. A., Winston-Salem
Sloan, W. L., Chapel Hill
Uzzell, Steve C. C., Black Mountain

NORTH DAKOTA
Anderson, Roy M., Minot
Engelter, Hilbert L., Hazen
Johnson, Gerald R., Harvey

OHIO
Humlicek, Leona M., Toledo
Jones, A. W., Cleveland
Maize, William F., Columbus
Sevastos, John P., Cleveland Heights

OREGON
Johannsen, F. C., Lebanon
Jones, Muriel B., Medford
Morris, E. G., Portland
Sckavone, Nick, Portland
Young, Alice J., Portland

PENNSYLVANIA
Matthews, Clayton E., Easton

TENNESSEE
Dreibelbis, Wright M., Memphis
Foster, Nan R., Lawrenceburg
Hummel, Lois, Signal Mountain
Jenkins, Johnnie H., Difficult
Meals, Paul J., Paris
Milam, Philip T., Martin
Pierce, Joseph J., Memphis
Tallant, Carl H., Ooltewah

TEXAS
Grady, Loomis O., Jr., Houston
Jones, Martha J., Knox City
Rouse, Thomas B., Houston

WASHINGTON
Lichter, Lorna L., Bremerton

WISCONSIN
Applegate, Robert J., Racine
Dahl, Charles F., Viroqua
Ellis, Lillian H., Oconomowoc
England, Arthur W., Sheboygan
Giese, Erland R., Eau Claire
Glagow, William F., Madison
Jermo, Betty Lou, Madison
Roman, Hugo, Milwaukee
Voigt, Edwin J., Appleton
Wang, Su Ming, Madison

UNITED STATES POSSESSIONS
Alcaraz, Fernando A., Humacao, P. R.
King, Nydia M., Rio Piedras, P. R.

FOREIGN
Alonso, Carlos R., El Paraiso, Caracas, Venezuela
Brown, Leona R., Saskatoon, Sask., Canada
Myers, Gordon E., Montreal, Que, Canada
Weiland, Bertha B., Madang, Ter. New Guinea

Deceased Members

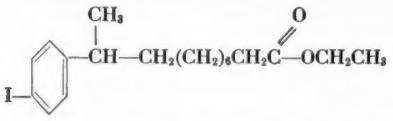
Amos, Wilber S. (life member since 1908), Birmington, Mich.
Crosby, Philip A., Hemet, Calif., Dec. 24, 1949
Demers, J. Ulysse, Quebec, Canada, Nov., 1950
Bowman, Waldo M. (life member since 1905), Toledo, O., Nov. 29, 1950

NNR

PRODUCTS RECENTLY ACCEPTED BY THE A. M. A. COUNCIL ON PHARMACY AND CHEMISTRY

Council descriptions of new drug products only are published regularly in THIS JOURNAL *as they are accepted. Rules upon which the Council bases its action appeared in the July (7:320) 1946 issue, and may be secured in pamphlet form upon request to the Secretary, Council on Pharmacy and Chemistry, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.*

ETHYL IODOPHENYLUNDECYLATE.—Pantopaque (Lafayette Pharmacal Inc.).—



Actions and Uses.—Ethyl iodophenylundecylate is an absorbable iodized fatty acid compound of low viscosity designed especially for myelography. It is particularly useful for study of the lumbar region. In humans, intrathecal injection of 2 to 5 cc. is well tolerated even when the agent is left in the spinal canal.

The agent should not be employed when lumbar puncture is contraindicated. It should not be employed as a contrast medium for other body cavities, because the limitations and contraindications for such use are not known.

Dosage.—Ethyl iodophenylundecylate is injected intrathecally by lumbar puncture technique; the 2- to 5-cc. dose is usually injected between the third and fourth lumbar segments. Care should be exercised to ascertain that the needle point is in the subarachnoid space. The injection should be made slowly to detect unusual resistance from obstruction. The needle with adapter is left in place during myelography to implement removal of the agent when the examination is completed. The agent is removed by aspiration in conjunction with fluoroscopic visualization.

Physical Properties: Ethyl iodophenylundecylate is a colorless to pale yellow, ordorless, viscous liquid. The color darkens on long exposure to air. The specific gravity (20/20) is between 1.240 and 1.263. The refractive index is between 1.5230 and 1.5280. It is freely soluble in alcohol, benzene, chloroform and ether and very slightly soluble in water.

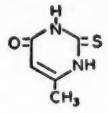
[For more detailed information regarding action and uses and for tests and standard, see *J. Am. Med. Assoc.*, 144: 17 (1950).]

Lafayette Pharmacal Inc., Lafayette, Ind.

Pantopaque: 3-cc. ampuls: An undiluted liquid, ethyl iodophenylundecylate, containing 30.5% iodine in organic combination.

U. S. trademark 401,476, Patent 2,348,231.

METHYLTHIOURACIL.—Muracil (Organon)—



Actions and Uses.—Methylthiouracil has actions and uses essentially like those of propylthiouracil, over which it has no significant advantage. However, it may prove useful in patients who are unable to tolerate propylthiouracil or are refractory to it.

Dosage.—200 mg. daily in four divided doses is usually sufficient to control the symptoms of hyperthyroidism. The daily dose should not exceed 300 mg. It is recommended that the scheme of administration suggested for propylthiouracil be followed and the same precautions observed.

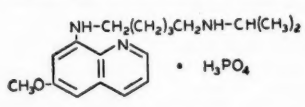
Physical Properties: Methylthiouracil is a crystalline, white odorless powder. It melts with decomposition between 326 and 331° C. (*distinction from propylthiouracil, which melts between 218 and 220° C.*). It sublimes readily when heated in a platinum dish. Methylthiouracil is very slightly soluble in ether and in water, slightly soluble in alcohol, and practically insoluble in benzene and chloroform.

[For more detailed information regarding action and uses and for tests and standards, see *J. Am. Med. Assoc.*, 144: 8 (1950).]

Organon, Inc., Orange, N. J.

Tablets Muracil: 50 mg.

PENTAQUINE PHOSPHATE—U. S. P.—



For description and standards see the U. S. Pharmacopeia under Pentaquine Phosphate and Pentaquine Phosphate Tablets.

Actions and Uses.—Pentaquine phosphate closely resembles pamaquin naphthoate in its antimalarial action, but is approximately three-fourths as toxic. When used alone, pentaquine phosphate is ineffective as a curative agent for malaria due to Plasmodium vivax. However, used in conjunction with quinine sulfate, it does cure vivax malaria. It is not recommended for use alone in the treatment of any type of malaria.

The toxic effects of pentaquine phosphate are similar to those of pamaquin naphthoate but they occur less frequently and are usually less severe.

(*Continued on Page 52*)

For local treatment of a wide range of mouth and throat infections

and now

CRYSTALLINE

Terramycin

TROCHES

Provides 15 mg. of Terramycin in a pleasant-tasting, slow-dissolving, mint-flavored sugar troche.

***Intensively promoted** to both medical and dental professions.*

***Supplied:** Packages of 24; may be stored at room temperature for 12 months.*

Plus

CRYSTALLINE

Terramycin

HYDROCHLORIDE

Ophthalmic Ointment

for topical use only

Supplied as a suspension of Crystalline Terramycin Hydrochloride in a petrolatum base. Each Gm. provides 1 mg. Terramycin. *Tubes containing ⅛ oz.*

CRYSTALLINE

Terramycin

HYDROCHLORIDE

Ophthalmic Solution

Supplied as a dry mixture for the preparation of topical solutions. Each 5 cc. vial provides 25 mg. Terramycin and a sodium borate-sodium chloride buffer to be dissolved in 5 cc. of Water for Injection, U.S.P.

For local treatment of eye infections

Plus

CRYSTALLINE

Terramycin

HYDROCHLORIDE

CAPSULES

new broad-spectrum antibiotic
orally effective — well tolerated

Supplied: 250 mg. capsules, bottles of 16 and 100;
100 mg. capsules, bottles of 25 and 100;
50 mg. capsules, bottles of 25 and 100.

Your wholesaler has these Pfizer prescription builders in stock

Plus

CRYSTALLINE

Terramycin

HYDROCHLORIDE

OINTMENT

for topical use only

In a wide range of localized skin infections

Supplied as a suspension of Crystalline Terramycin Hydrochloride in a petrolatum base. Each Gm. of ointment provides 30 mg. of Terramycin.

Tubes containing 1 oz.

Plus

CRYSTALLINE

Terramycin

HYDROCHLORIDE

INTRAVENOUS

for hospital use only

Crystalline Terramycin Hydrochloride for Intravenous Injection

rapid-acting dosage form

Supplied: 10 cc. vials containing 250 mg. of Terramycin Hydrochloride with a sodium glycinate buffer;

20 cc. vials containing 500 mg. of Terramycin Hydrochloride with a sodium glycinate buffer.

Plus

CRYSTALLINE

Terramycin

HYDROCHLORIDE

ELIXIR

formerly TERRABON

the only broad-spectrum antibiotic available as an elixir

Supplied as a combination package consisting of:

1. A vial containing 1.5 Gm. of Crystalline Terramycin Hydrochloride.
2. A bottle containing 1 fluid ounce of specially buffered and flavored diluent.

Compounding time—only 3 minutes

ANTIBIOTIC DIVISION **Pfizer** CHAS. PFIZER & CO., INC., *Brooklyn 6, N.Y.*

NEW AND NONOFFICIAL REMEDIES

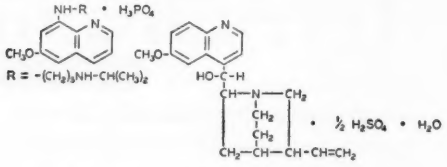
Pentaquine Phosphate-U.S.P. • • *from page 50*

Dosage.—For adults, 30 mg. daily in divided doses given concurrently with 1 Gm. of quinine sulfate. Treatment should be continued for 14 days. This is the maximum dosage. It is not known whether pentaquine phosphate is safe for children.

Abbott Laboratories, North Chicago, Ill.

Tablets Pentaquine Phosphate: Each tablet represents 10 mg. of pentaquine base (containing 13.3 mg. of pentaquine phosphate).

PENTAQUINE PHOSPHATE—U. S. P. AND QUININE SULFATE—U. S. P.—



Actions and Uses.—See the monograph for Pentaquine Phosphate.

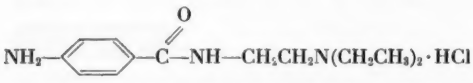
Dosage.—The dosage should be adjusted to provide not more than 30 mg. pentaquine phosphate daily. The dosage schedule proposed for pentaquine phosphate should be followed.

[For more detailed information regarding action and uses and for tests and standards, see *J. Am. Med. Assoc.*, **144:** 9 (1950).
The pentaquine phosphate and quinine sulfate used in this mixture meet the requirements of the U. S. Pharmacopeia for these substances.]

Abbott Laboratories, North Chicago, Ill.

Tablets Pentaquine Phosphate and Quinine Sulfate: Each tablet contains 10 mg. of pentaquine base (as pentaquine phosphate 13.3 mg.) and 0.3 Gm. of quinine sulfate.

PROCAINE AMIDE HYDROCHLORIDE.—Pronestyl Hydrochloride (E. R. Squibb and Sons)—



Actions and Uses.—Procaine amide hydrochloride, like procaine hydrochloride, depresses the irritability of the ventricular muscle. Procaine amide is tolerated in larger intravenous doses than is procaine and its effect is more prolonged. On a weight basis, the amide is about one-half to two-thirds less toxic. It differs from procaine also in that it does not produce significant central stimulatory effects. The action occurs almost immediately after intravenous administration; after oral administration therapeutic levels are attained within 30 minutes to one hour.

Procaine amide hydrochloride is useful for the treatment of ventricular arrhythmias and extrasystoles occurring either in cardiac diseases or during general anesthesia. When administered intravenously the drug produces a hypotensive effect which is less severe than that with procaine. Hypotensive reactions may be precipitous and clinical judgment is required to determine whether it is necessary to administer vasoconstrictor agents or to discontinue therapy. Epinephrine is likely to aggravate an existing arrhythmia and is generally contraindicated during cyclopropane anesthesia.

Dosage.—In conscious patients: For the treatment of ventricular tachycardia, 1 Gm. orally, followed by 0.5 to 1 Gm. every four to six hours as indicated. For the treatment of runs of ventricular extrasystoles, 0.5 Gm. orally every four to six hours as indicated. During anesthesia: 0.1 to 1.0 Gm. (1 to 10 cc. of a solution containing 100 mg. per cc.) intravenously.

Intravenous injection is subject to the danger of hypotensive action; oral administration is not.

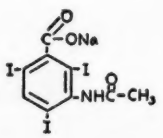
Physical Properties: Procaine amide hydrochloride is a white to tan, ordorless, crystalline solid. It melts between 165 and 169° C. It is very soluble in water, soluble in alcohol, slightly soluble in chloroform, and very slightly soluble in benzene and ether.
[For more detailed information regarding action and uses and for tests and standards, see *J. Am. Med. Assoc.*, **144:** 17 (1950).]

E. R. Squibb and Sons, New York

Capsules Pronestyl Hydrochloride: 0.25 Gm.

Solution Pronestyl Hydrochloride: 10-cc. vials: A solution containing 100 mg. of procaine amide hydrochloride in each cc. Preserved with 0.9% benzyl alcohol and 0.09% sodium bisulfite.

SODIUM ACETRIZOATE.—Urokon Sodium (Mallinckrodt).—



Actions and Uses.—Sodium acetrizoate is a water-soluble organic iodine compound employed in the form of a solution as a contrast medium for roentgen visualization of the urinary tract. It is useful for both excretory urography and retrograde pyelography. It should be employed only in these procedures until satisfactory technique has been developed for the visualization of other structures. Although it contains a greater amount of iodine than do other similar agents, studies thus far indicate that it is less toxic. However, it is subject to the general contraindications for injection of iodine compounds and in cases of suspected sensitivity it

(*Continued on Page 54*)

S.T.37®

Antiseptic Solution

Children don't argue about gargling with S.T.37! It's fun, and it leaves a fresh, tingling after-taste. Mothers know it contains *hexylresorcinol*, potent, nontoxic antiseptic, and that it's wonderfully soothing and effective for sore throats.

S.T.37 is the ideal home antiseptic because it doesn't hurt a bit, actually relieves the pain of cuts, burns and abrasions, doesn't stain, and because it's so safe you can swallow it, full strength, without harm.

Check your stock of S.T.37 Antiseptic Solution now! Be sure you've plenty of S.T.37 for winter sore throats, and year-round antiseptic emergencies. Bottles of 5 and 12 fluidounces.
Sharp & Dohme, Philadelphia 1, Pa.

SHARP & DOHME

no argle-bargle about this gargle!

NEW AND NONOFFICIAL REMEDIES

Sodium Acetrizoate • • • • • • • *from page 52*

should be used only after sensitivity tests have been made.

Dosage.—For intravenous urography, 25 cc. of a 30% aqueous solution is considered adequate for adults and children of 12 years or older. For children under 12, the dosage should be proportionate to age. The total time for injection should not be less than 90 seconds, and preferably 2 to 4 minutes. Nausea and vomiting, arm pain, flushing, foreign taste or urticaria may occur occasionally. Such side effects are usually transitory, but injection should be discontinued immediately in the presence of alarming symptoms.

For retrograde pyelography the dilute solution employed may contain 30% or more of sodium acetrizoate depending on the degree of contrast desired. Bilateral ureteral injection is usually tolerated. Approximately 25 cc. are needed for bilateral injections; 15 cc. for unilateral pyelograms. Usually 5 to 6 cc. are required for each exposure. Neither excretory nor retrograde pyelography should be repeated within 24 hours.

Physical Properties: Acetrizoic acid is a white, odorless powder which melts with decomposition between 278 and 283° C. It is soluble in alcohol, slightly soluble in ether and water, very slightly soluble in chloroform and practically insoluble in benzene.

[For more detailed information regarding action and uses and for tests and standards, see *J. Am. Med. Assoc.*, **144** : 8 (1950).]

Mallinckrodt Chemical Works, St. Louis

Solution Urokon Sodium 30%: 25-cc. ampuls and 25-cc. vials: A solution containing 0.3 Gm. of sodium acetrizoate in each cc.

SODIUM PSYLLIATE.—Sylnasol (Searle).—Sodium psylliate is a mixture of the sodium salts of the liquid fatty acids prepared by saponification of the vegetable oil of Plantago seed (Plantago ovata-Forskal). Sodium psylliate is made by dissolving the fatty acids in dilute sodium hydroxide and is not isolated from the solution.

Actions and Uses.—Sodium psylliate is used in the form of a 5% solution as a sclerosing agent for the obliteration of varicose veins of the lower extremities and of selected internal hemorrhoids which are not prolapsed or thrombosed. It is not recommended for other types of hemorrhoids.

Dosage.—A 5% solution of sodium psylliate is injected in amounts dependent upon the size of the varicosity to be obliterated. The dose may vary from a few minims in suitable internal hemorrhoids, to 5 cc. or 6 cc. for large sacculated veins of the lower extremities. The large doses should be given no oftener than twice weekly and single doses in excess of 6 cc. should be avoided. It is advisable to inject a test dose of 0.5 to 1 cc. to detect possible idiosyncrasy before commencing therapy. Treatment should be discontinued when severe reactions occur or are suspected.

Physical Properties: Psyllium oil liquid fatty acids are a moderately viscous, amber to brown liquid with an oily odor. The specific gravity is between 0.925 and 0.930.

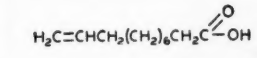
[For more detailed information regarding action and uses and for tests and standards, see *J. Am. Med. Assoc.*, **144**: 9 (1950).]

G. D. Searle & Co., Chicago 80

Sclerosing Solution Sylnasol 5% with Benzyl Alcohol 2%: 5-cc. and 60-cc. vials. An aqueous solution containing 50 mg. of sodium psylliate in each cc.

U. S. Patents 2,115,491 and 2,115,492; U. S. trademark 340,714.

UNDECYLENIC ACID—N. F.—



Actions and Uses.—Undecylenic acid is one of the more potent fatty acids employed topically as a fungistatic agent in the treatment of superficial fungous infections. Local application occasionally produces irritation and internal use for the treatment of psoriasis or other skin conditions is not established.

Dosage.—Undecylenic acid is applied topically in the form of a solution or emulsion in concentrations not to exceed 10 per cent. This strength may produce burning when applied to mucous membranes; it should therefore be diluted to a 1% concentration for irrigation of these structures.

[For more detailed information regarding action and uses and for tests and standards, see *J. Am. Med. Assoc.*, **144**: 9 (1950).
For description and standards see the National Formulary under Undecylenic Acid.]

Wallace & Tiernan Products, Inc., Belleville 9, N. J.

Desenex Solution Undecylenic Acid 10%: 59.14-cc. and 473-cc. bottles. A solution containing 0.10 Gm. of undecylenic acid in each cc.

Pharmacy * Bacteriology * Biology * Chemistry

Founded in 1821. Located at 43rd Street, Woodland and Kingsessing Aves., Phila. 4, Penna.

Offer exceptional opportunities today for interesting careers to young men and women who complete B.Sc. degree courses in these fields. Graduate studies leading to M.Sc. and D.Sc. degrees offered. Write for catalog.

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THE *Lederle* BULLETIN has been accepted more widely and wholeheartedly by the medical profession than any other piece of advertising literature which has been produced for professional use. It combines sound and factual information with an art treatment that provides enjoyment and relaxation.

Prestige is inherent in *Lederle* products as well as in the advertising; and it complements that of the pharmacist who stocks them. *Lederle* planning for advertising and promotion is more elaborate than that of any other company in the drug industry. These efforts are continuous and cannot fail to produce an appreciation of the unrivaled research and production activities of *Lederle*.

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AMERICAN Cyanamid COMPANY
30 ROCKEFELLER PLAZA • NEW YORK 20, N. Y.

This month Lederle will bring to the attention of physicians the following products:

AUREOMYCIN—*The antibiotic that has been termed the "wonder drug," because of its effectiveness against a wide range of bacterial, rickettsial, protozoal and near-viral infections.*

Capsules: Bottles of 25 and 100, 50 mg. each capsule. Bottles of 25, 100 mg. each capsule. Bottles of 16 and 100, 250 mg. each capsule.
Intravenous: Vials of 100 mg. and 500 mg.
Ointment: Tubes of ½ ounce and 1 ounce.
Ointment: (Ophthalmic) 6 tubes of ⅛ ounce each.
Solution: (Ophthalmic) Vials of 25 mg. with dropper.
Otic Solution: Vials of 50 mg. with 10 cc. vial diluent.
SPERSOIDS*: Jars of 12 doses and 25 doses.
Test Tablets: 4 tubes of 25 tablets, 0.6 mg. each tablet.
Troches: Bottles of 25 and 250, 15 mg. each troche.

VI-MAGNA* *Multivitamins—The well-accepted, ethical vitamin preparation for multivitamin daily supplementation, containing vitamins A, D, B_1, B_2, B_6, B_{12}, C, niacinamide, calcium pantothenate, and folic acid.*

Capsules: Bottles of 100, 250 and 1,000.
Granules: Jars of 0.5 ounces and 10 ounces.
Syrup: Bottles of 4 and 16 fluid ounces.

PRENATAL *Capsules—A multivitamin preparation containing calcium, phosphorus, iron, and manganese, for dietary supplementation in pregnancy.*

Bottles of 100 and 1,000.

PERFOLIN* *Multivitamins Capsules—A high potency vitamin preparation, containing vitamins A, D, B_1, B_2, B_{12}, niacinamide, C, and folic acid—for remedying acute multivitamin deficiency.*

Bottles of 30, 100 and 1,000 capsules.

GRAVIDOX* *Pyridoxine-Thiamine Hydrochloride—For the alleviation, in conjunction with other means, of excessive vomiting in pregnancy.*

Solution: Vials of 10 cc.
Tablets: Bottles of 50.

ACIBAN* *Antacid Tablets—The calcium caseinate-calcium carbonate, "food type" antacid; for relief of gastric hyperacidity without alkalosis, constipation, excessive gaseous eructation, or interference with normal digestion.*

Bottles of 25, 250 and 1,000.

FOLBESYN* *Vitamins—The water soluble vitamins, available in either parenteral or oral form, for high potency therapy.*

Parenteral: 1 dose (1 vial with 1 ampul diluent). 25 doses (25 vials with 25 ampuls diluent).
Tablets: Bottles of 50 and 500.

*REG. U.S. PAT. OFF.

ASSOCIATIONS

Annual convention sessions of the **Nevada State Pharmaceutical Association** were conducted November 10 and 11 in Reno with President R. W. Fleming opening the meeting.

Al Sharp and Jack E. Staggs, both of Las Vegas, were elected president and secretary, respectively. Other officers are: Peter Codner, Reno, 1st vice-president; Jack Bott, Hawthorne, 2nd vice-president; and Jacques R. Bolman, Reno, treasurer. Among the speakers were: Louis J. Fischl, second vice-president of the AMERICAN PHARMACEUTICAL ASSOCIATION; Bert Butterworth, publisher of the *West Coast Druggist;* and John A. MacCartney, Chicago.

Dr. L. E. Burney, Director of the Medical and Health Services Division of the Indiana State Civil Defense Program, reported on the progress of Indiana's Civil Defense Program before the **Indiana Interprofessional Health Council** November 15, in Indianapolis. The following officers were re-elected by the members: Dr. Glenn L. Jenkins, chairman; Dr. E. E. Eubank, vice-chairman; and Henry W. Heine, secretary-treasurer.

An all-day scientific meeting was held November 14, Beaumont, Texas, by the **Southeast Texas Pharmaceutical, Medical, and Dental Associations**. Dr. William Levin, University of Texas, was guest speaker.

Harold N. Cool, Culver City, is the new president of the **Southern California Pharmaceutical Association.** Other officers elected at the November 12 meeting, Los Angeles, were: M. E. Wright, Westminster, 1st vice-president; Harold Jewell, Monrovia, 2nd vice-president; and E. Wagner, Long Beach, treasurer.

Hyman Mandell, Rochester, N. Y., was elected Supreme Chancellor of **Rho Pi Phi** Pharmaceutical Fraternity at the Detroit Convention.

The **Alabama Pharmaceutical Association,** in conjunction with the schools of pharmacy at Alabama Polytechnic Institute and Howard College, presented its Annual Pharmacy Seminar, November 16, at Howard College, Birmingham, Ala.

The mid-year meeting of the **Proprietary Association's Scientific Section** was held December 7, New York City. Six scientific papers were presented and discussed.

Mearl D. Pritchard, a member of the staff of the University of Buffalo School of Pharmacy, was elected president of the newly formed **Erie County Pharmaceutical Association.**

The **New York State Pharmaceutical Association** has named Dr. A. Bertram Lemon, Dean of the University of Buffalo School of Pharmacy, as chairman of a special state-wide pharmacy advisory committee on Selective Service. The committee, which has the approval of Selective Service, will assist in evaluating claims for occupational deferment for registered pharmacists in the state.

Dal Bruner, executive secretary of the **Iowa Pharmaceutical Association** since 1946, has been named to act in the same capacity for the Animal Health Institute.

COLLEGES

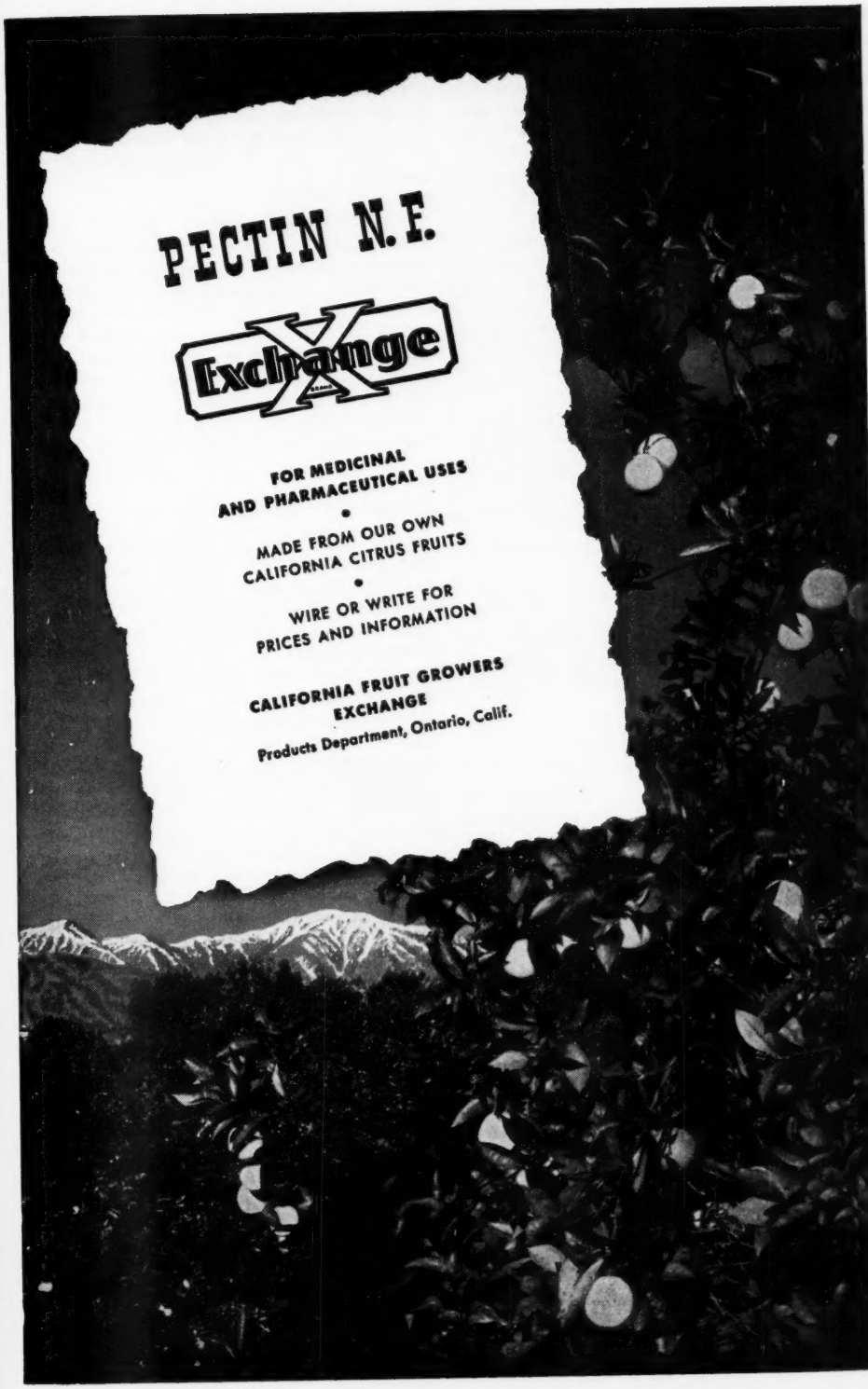
Dr. Edward F. Buyniski, Medical Director of the Fairchild Engine and Aircraft Corp., addressed the senior class of the **Massachusetts College of Pharmacy,** December 15. His topic was "The Role of Pharmacy in Industrial Medicine." Dr. Buyniski is a graduate of the College and of Tufts College Medical School.

The map hanging in the **Rutgers University Pharmaceutical Extension Service** office is slowly turning red, not from embarrassment but with pride. The red shadings indicate areas in which pharmacists have been directly served by the extension program.

Alpha Omicron chapter of Rho Chi Honorary Pharmaceutical Society was installed at the **University of Pittsburgh School of Pharmacy,** November 21.

Georgia pharmacists were guests at the second annual Pharmacy Seminar jointly conducted by the **University of Georgia School of Pharmacy** and the Georgia Pharmaceutical Association, November 8 and 9, in Athens. Dr. Allen Bunce, recently elected president of the United States Pharmacopeial Convention, spoke on "The Doctor and the Pharmacist."

(Continued on Page 58)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EXCHANGE
Products Department, Ontario, Calif.

BRIEFLY NOTED • • • • • • *from page 56*

Grants and commitments totaling $18,600 for advance research in special drug and chemical studies have been awarded to the **Pharmaceutical Foundation of the University of Texas** by the Clayton Foundation. A $3600 research grant from Sharp & Dohme, Inc., has also been made available to the newly established Pharmaceutical Foundation.

Miss Sarrah R. Norred recently returned to her alma mater, **Howard College,** to serve as assistant professor of pharmacy.

Purdue University School of Pharmacy reactivated its extension department with its first Druggists' Business Conference since 1943 held on November 8 and 9.

Students of the **Texas State University for Negroes School of Pharmacy** heard Dr. R. B. Keppler of Hoffmann-La Roche, Inc., give a history of his company November 22. Mr. Roy Wiese, Jr., local representative of Schering Corporation, visited the University on November 30 and lectured on he international houses of Schering.

A portrait by Henry Rood, Jr., of the late Dean Marion Lee Jacobs of the **University of North Carolina School of Pharmacy** was unveiled November 12. The portrait was a gift of the pharmacy studen body of 1949–50.

MANUFACTURERS

Medical Horizons, distributed by **Sandoz Pharmaceuticals,** New York, is a new professional quarterly containing for the most part, technical information of interest to physicians.

Wyeth, Inc., Philadelphia pharmaceutical manufacturer, is in the process of constructing a laboratory in West Chester, Pa., for the conversion of penicillin into various forms suitable for medical and veterinary uses.

Lloyd C. Miller, Director of Revision, the United States Pharmacopoeia, addressed **The Upjohn Company Medical Science Seminar** October 31. His topic was "U. S. P. Revision and Pharmaceutical Research."

A. H. Robins Company, Inc., Richmond, Va., held the largest training program of its history October 9–19, when 33 recently appointed medical representatives assembled in the firm's new offices for intensive drill in the promotion of products and in institutional policies. The ten-day conference, beginning with a welcoming address by President E. Claiborne Robins, was under the direction of E. F. Heffner, Jr., sales manager.

Establishment of a pharmaceutical department by **Amino Products Division of International Minerals & Chemical Corporation** was recently announced. James H. Cupps has been appointed manager.

Scientists attending **Smith, Kline & French Laboratories' Fourth Annual Research Conference** recently held in Philadelphia predicted that investigation of the gonadotropic field holds the greatest promise in the field of endocrine research. Dr. M. Edward Davis, professor of obstetrics and gynecology, University of Chicago College of Medicine, pointed out that there is a great clinical need for effective sex hormone agents. "Although work in this field is still in preliminary stages," he said, "new and promising research leads are being developed."

Personnel Changes—

Chas. Pfizer & Co., Inc.—Charles A. Kapp has been appointed district manager of the Antibiotics Division. **Winthrop-Stearns Inc.**—Alva Proctor formerly special hospital representative, was promoted to the position of Chicago manager. Harold Q. Callahan, also a hospital representative, has become division manager in New Orleans. **Brayten Pharmaceutical Company**—Richard Kennon Hines, secretary and director of Vick Chemical Corporation, is the new executive vice-president. **Sharp & Dohme, Inc.**—John R. Stockton has been appointed assistant to the Director of Biological Production...Riley McGaughran and Duane C. Hess, two new research associates, have been added to the staff...R. H. Reiten is now serving as sales supervisor in Minneapolis. **Wyeth, Inc.**—Lester J. Bishop has been promoted to district manager for central and southern Ohio. **E. R. Squibb & Sons**—Dr. William A. Feirer has been appointed to the newly created post of vice-president in charge of scientific affairs. **Smith, Kline & French Laboratories**—Dr. John K. Clark and Dr. Ernest M. Brown, Jr., former faculty members of the University of Pennsylvania School of Medicine, have joined the company as medical consultants...Two new scientists, Drs. Howard L. Dinsmore and Robert E. Keller, have been added to the Research Laboratories...Dr. J. W. Stutzman, former associate professor of Pharmacology at the Boston University School of Medicine, is now in charge of the pharmacology section. **Schering Corporation** has recently added eighteen new representatives to its professional service staff. **Ethicon Suture Laboratories, Inc.**—Dr. Walton Van Winkle, Jr., is taking over as director of research. Dr. Van Winkle was formerly a medical official with the U. S. Food and Drug Administration and more recently

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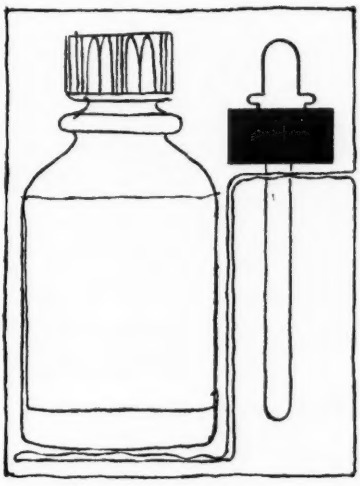

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intranasal infections

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BRIEFLY NOTED • • • • • • *from page 58*

with the American Medical Association. **The Upjohn Company**—Drs. G. F. Cartland, H. G. Kolloff, and M. H. Kuizenga have been appointed assistant directors of research. **A. H. Robins Company, Inc.**—E. W. Zeller recently assumed his new duties as assistant sales manager. **Strong Cobb & Company, Inc.**—William N. Doushkess has joined the company as director of the Chemical Development Division. **Cutter Laboratories**—Dr. Victor P. Seeberg will head the recently created Pharmacy and Pharmacology Research Department, Berkeley, California... William Muller, recent addition in the executive sales staff, will specialize in sales promotion and new product development for the Berkeley firm... Meredith Yarling, hospital specialist formerly in the Detroit territory, has been transferred to New York. **Chilcott Laboratories**—Charles C. Scott, M. D., Ph. D., formerly with Eli Lilly and Company, Inc., has recently been appointed Director of Pharmacology.

AT RANDOM

Percy C. Magnus, president of Magnus, Mabee & Reynard, Inc., has been appointed to serve on the Advisory Council to the Director of Civil Defense, City of New York.

Listing the names and addresses of all licensed members of the dental profession in the United States, the 1950 edition of the **American Dental Directory** is now being distributed by the American Dental Association. The first edition of the directory since 1947, the new publication includes the names of 86,876 dentists, with a separate geographical list of dental specialists.

The **Pan American Sanitary Bureau,** Regional Office of the World Health Organization, and first of the international organizations in the field of public health, celebrated its 48th anniversary December 2.

Announcement of a $300,000 allocation for civilian relief in Korea in addition to the $100,000 grant made November 1, was made recently by the **American Red Cross.**

The first **preventive medicine unit** of company size was ordered to duty in Korea, Maj. Gen. R. W. Bliss, surgeon general of the Army, announced in November. This is the first unit of its kind to be established by the Army Medical Service. Others are now being organized.

The units will take over the duties of the malaria control detachments of World War II, but its range of activity will extend to the inspection of field sanitary conditions and control of insect-borne and water-borne diseases. They will act as far forward in the line as necessary in order to accomplish their mission.

Six officers, one warrant officer, and 59 enlisted men make up the preventive medicine companies. Officer personnel are entomologists or sanitary engineers while the enlisted men are trained in one or more phases of preventive medicine.

Brigadier General Paul I. Robinson, chief of Personnel, Army Medical Service, has announced the immediate need of 3000 nurses for the **Army Nurse Corps.** General Robinson warned that the present shortage represents one of the most critical problems now confronting the Army Medical Service.

HOSPITAL PHARMACY

Members of the **American Hospital Association's Committee on Pharmacy** appointed to serve during 1951 include: Robert R. Cadmus, M.D., University of North Carolina, Chapel Hill, chairman; Don E. Francke, University Hospital, Ann Arbor, Mich.; Hans S. Hansen, Grant Hospital, Chicago; W. Arthur Purdum, Johns Hopkins Hospital, Baltimore; George C. Schicks, Hospital of St. Barnabas and for Women and Children, Newark, N. J.; and Joseph Snyder, Presbyterian Hospital, New York City.

Retirement of Dr. Malcolm T. MacEachern from active service with the **American College of Surgeons** has been announced. Dr. MacEachern is director emeritus of the college and, until the present time, director of the college's hospital standardization program. He will continue as professor and director of Northwestern University's course in hospital administration, and as chairman of the Tri-State Hospital Assembly. He is also president of the American Protestant Hospital Association, honorary president of the Western Hospital Association, and chairman of the Association of University Programs in Hospital Administration.

Dr. Paul S. Ferguson, who has assisted Dr. MacEachern with the program since 1939, has been named to head the standardization activities of the American College of Surgeons.

Dr. Robert R. Cadmus, the American Hospital Association's representative on the Policy Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION's Division of Hospital Pharmacy, recently became the director of the new teaching hospital at the University of North Carolina, Chapel Hill. He

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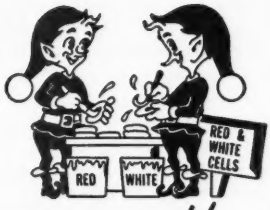
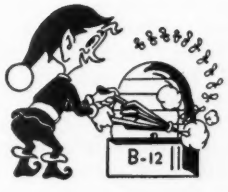


QUESTION: *How many red blood cells are replaced due to "wear and tear"?*

ANSWER: *Approximately 25 million a day in normal people*

When abnormal demands overtax the blood forming capacity of the body producing easy fatigability, sub-clinical anemia too often does not receive corrective treatment until more serious symptoms urgently demand attention.

Frequently more than just iron deficiency is involved. The patient does not respond to simple iron therapy and other factors must be added.



Livitamin, "the first thought in hypochromic anemias," combines liver with iron and B complex vitamins, including vitamin B_{12}. Available as a palatable liquid or easily swallowed capsules, Livitamin provides a complete approach to the successful treatment of the hypochromic anemia syndrome.

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Livitamin

LIQUID AND CAPSULES

BRIEFLY NOTED • • • • • • *from page 60*

was formerly assistant director of the University Hospitals of Cleveland and prior to that time was director of the Vanderbilt Clinic of Presbyterian Hospital in New York City.

New Orleans, La., will be the site for the **1951 Institute on Hospital Pharmacy** to be held during the week of June 11. This annual meeting which serves as a training course for hospital pharmacists will again be sponsored by the American Hospital Association in cooperation with the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Society of Hospital Pharmacists. The Planning Committee is headed by Don E. Francke, Director of the A. PH. A.'s Division of Hospital Pharmacy. Other members of the committee include I. Thomas Reamer and Albert P. Lauve, representing the A. S. H. P.; Robert P. Fischelis representing the A. PH. A.; and Charles T. Dolezal of the American Hospital Association. Chairman of the local planning commitee is Miss Valerie Armbruster, chief pharmacist, Charity Hospital, New Orleans.

Included in the new **Greenwich Hospital,** Greenwich, Conn., will be a pharmacy department having a greatly expanded area and additional facilities. Frank Steele, chief pharmacist is responsible for planning the new department. Located on the ground floor of the hospital, the pharmacy includes a dispensary, an office, a sterile solution room and storage space.

The 1951 convention of the **Catholic Hospital Association** will be held in Philadelphia, June 2 to 5. The third annual Institute for Hospital Pharmacists sponsored by the Catholic Hospital Association will be held in conjunction with the convention with meetings May 31 to June 3.

GOVERNMENT

The cut-off date for starting courses under the GI Bill is only six months away. The deadline, July 25, 1951, applies to veterans discharged from service before July 25, 1947.

Veterans must actually have started their training by the **cut-off date** if they want to continue afterward, the Veterans Administration has warned. A veteran must be in training on that date unless he has temporarily interrupted his course for summer vacation or for reasons beyond his control.

Once he completes or discontinues his course after the deadline, he may not start another course.

After the cut-off date, the veteran who continues his course must pursue his training "continuously until completion, except for conditions which normally would cause interruption by any student."

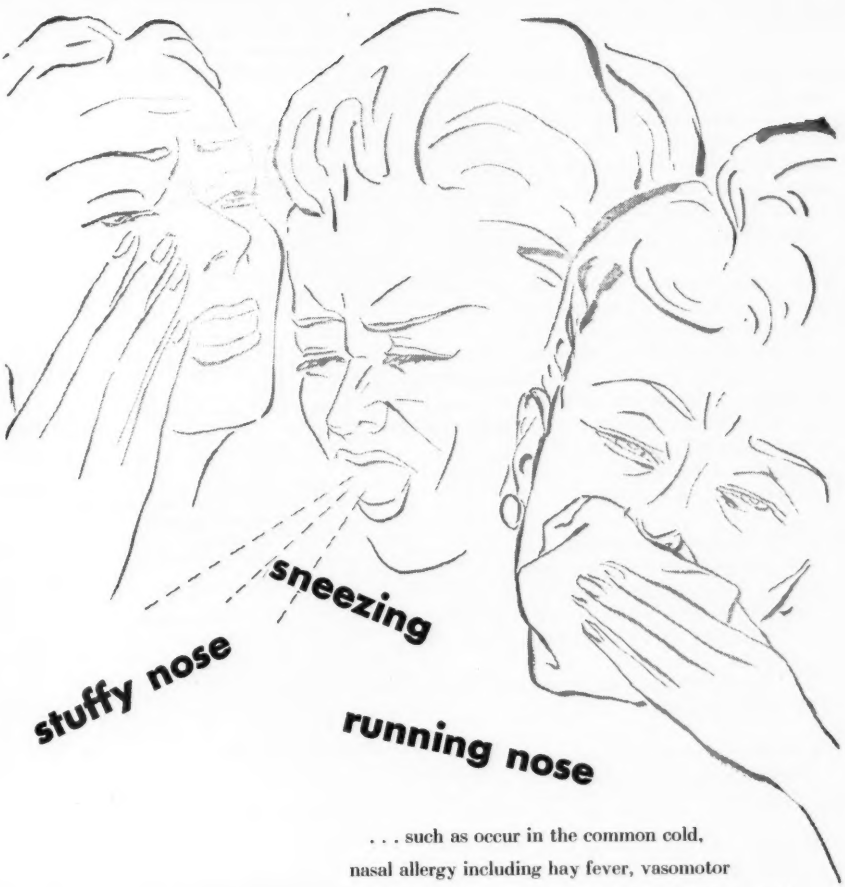
Four categories of veterans may be treated as exceptions to the above: (1) those whose **GI Bill studies** are interrupted by a return to the service; (2) veterans who have completed pre-medical or pre-dental schooling and can't get into medical or dental school by deadline time; (3) teachers who spend their summers taking courses leading to a degree, and (4) those who have completed undergraduate courses and intend to go ahead with graduate training which would start after the deadline date.

New appointments—

Dr. David E. Price has been appointed an assistant surgeon general of the Public Health Service and an associate director of the National Institutes of Health.

"The position to which Dr. Price has been appointed," Oscar R. Ewing, Federal Security Administrator, said in announcing the appointment, "has been created because of the growth of the National Institutes of Health and particularly because of the increased administrative responsibilities entailed by the broadening of the grants programs, the inauguration of a large cortisone-ACTH research program, and the initiation of new research in the metabolic and neurological diseases." . . . **Dr. Philip N. Powers** has been appointed as specialist on scientific problems in the Manpower Office of the National Security Resources Board. He will help develop and coordinate plans for assuring the nation enough scientists to meet the needs of the armed forces, industry, and education. . . . **Dr. Charles A. Thomas,** executive vice-president of the Monsanto Chemical Co., was appointed chairman of the Scientific Manpower Advisory Committee of the NSRB. Dr. Thomas is a former president of the American Chemical Society, a former director of the Oak Ridge Laboratories of the Atomic Energy Commission, and a member of the Scientific Panel of the United States Representatives to the United Nations Atomic Energy Commission . . . Federal Security Administrator Oscar R. Ewing has appointed **John L. Thurston** as his deputy. He will be known as Assistant Federal Security Administrator. Mr. Thurston served in the Executive Office of the President where he was a member of the President's Scientific Research Board, and the Commission on Higher Education. He joined FSA in 1948. . . .

General Marshall announced last month that a contract had been signed between the Department of Defense and the American National Red Cross by which the Department of Defense will provide financial assistance to the Red Cross to aid it in rapidly expanding its facilities for **furnishing blood** to the armed forces. An immediate advance of $3,000,000 was provided. The Defense Department has set a total of $12,000,000 from which the Red Cross will be reimbursed for a portion of the total cost incident to the collection and shipment of blood.



. . . such as occur in the common cold, nasal allergy including hay fever, vasomotor rhinitis, sinusitis, are promptly relieved with the combination of the well known decongestant and a highly effective antihistaminic offered in

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A. M. A. JOURNAL SUGGESTS ANTIDOTES FOR BROMATE NEUTRALIZERS IN HOME PERMANENT WAVE KITS

An editorial in the *Journal of the American Medical Association* (144: 397, September 30, 1950) pointed out the potential danger of ingestion, either accidental or intentional, of neutralizing solutions contained in permanent waving kits for home use. The solutions are usually potassium bromate or, less frequently, sodium bromate.

The editorial reported one case in which death occurred, and one other in which severe illness, resembling anuria, was seen. Other cases are cited, with the symptoms ranging from moderate gastrointestinal irritation to severe toxic nephrosis.

In answer to a request in the editorial for an antidote to these solutions, Dr. Matthew J. Brunner, of Chicago Heights, Ill., described an antidotal procedure in a letter to the Journal (*Journal of the American Medical Association*, 144: 1282, Dec. 9, 1950).

The antidotes and procedure recommended by Dr. Brunner are quoted, as follows:

"1. Administration of an emetic.
- (a) Mustard powder, 1 teaspoonful, in 300 cc. of warm (not hot) water, or
- (b) Zinc sulfate, 1 teaspoonful, in water, followed by copious ingestion of water, or
- (c) Apomorphine, 5 mg., intramuscularly.
- (d) Gastric lavage.

"2. Sodium thiosulfate, 1 level teaspoonful in water. This may precede but should in addition always follow the emetic.

"3. Demulcent drinks, such as milk, flour and water, or cereal gruel.

"4. Sodium thiosulfate solution, 1 per cent by intravenous drip, in quantities of 100 to 500 cc. If not feasible, 10 to 50 cc. of 10 per cent solution of sodium thiosulfate may be given intravenously.

"Gastric washings and urine should be tested for the presence of bromide. Since a fatal outcome is apparently dependent on the nephrotoxic effect of bromate, speedy removal of the material from the stomach by mechanical or chemical means is of the utmost importance. When uremic symptoms develop, treatment is indicated as for mercury poisoning, since tubular degeneration similar to that produced by mercury has been noted in bromate studies on animals."

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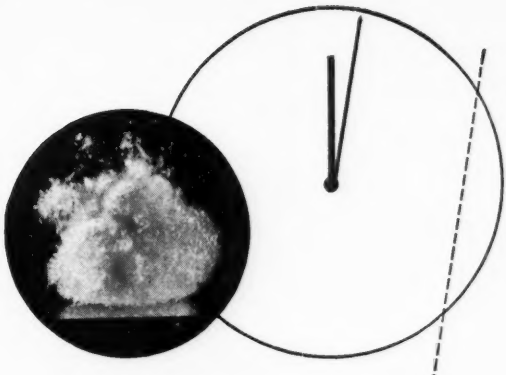

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For throat irritations 'Thantis'* Lozenges provide effective relief. 'Thantis' Lozenges are especially beneficial in soothing these conditions because they are both antiseptic and anesthetic for mucous membranes of the throat and mouth. These effects are due to the two active medicinal agents, 'Merodicein'* an antiseptic of low toxicity, and Saligenin, a mild local anesthetic. When 'Thantis' Lozenges are dissolved in the mouth, the two ingredients dissolve slowly, providing prolonged medication of the throat.

Each lozenge contains 'Merodicein' (H. W. & D. brand of monohydroxymercuridiiodoresorcinsulfonphthalein-sodium) 1/8 grain, Saligenin (orthohydroxybenzyl-alcohol, H. W. & D.) 1 grain.

Be sure to maintain a good supply of 'Thantis' Lozenges during the "cold season."

Supplied in vials of 12 lozenges in individual cartons packed in dozens.

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